

Issued for: Permitting Review

Date Issued: September 23, 2011

Latest Issue: September 23, 2011

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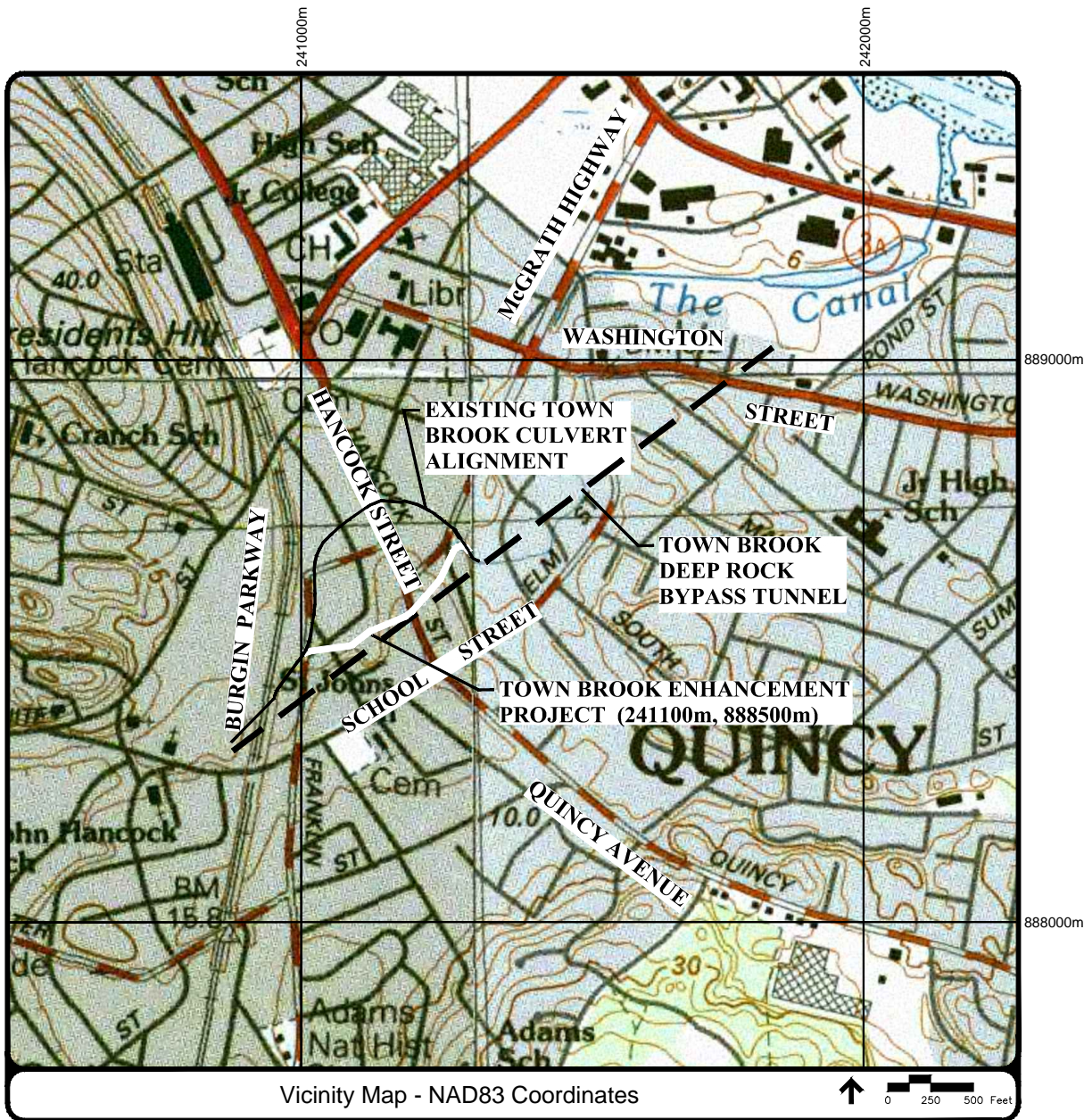
(Ref. MassDEP File # NE 059-1261)

Town Brook Enhancement Project

MassDEP 401 Water Quality Certification

USACOE 404 Category 2 Permit

Quincy, MA

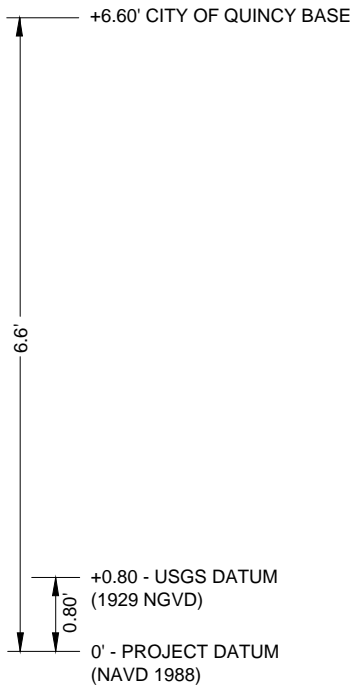


* USGS TOPOGRAPHIC MAPS FROM THE OFFICE OF GEOGRAPHIC AND ENVIRONMENTAL INFORMATION (MassGIS). COMMONWEALTH OF MASSACHUSETTS EXECUTIVE OFFICE OF ENERGY AND ENVIRONMENTAL AFFA



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DATUM RELATIONSHIP



SCALE 1' = 1"

PROJECT INFORMATION

Proponent:



City of Quincy
1305 Hancock Street
Quincy, Massachusetts

Civil Engineer:
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Phone: 617.695.7799

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Quincy, MA 02170
Phone: 617.405.4140

Land Surveyor:
VS Land Data
35 Medford St. Suite 113
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Phone: 800.856.5050

Geotechnical Consultant:
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* Not Approved for Construction *

Abbreviations

General	
ABAN	ABANDON
ACR	ACCESSIBLE CURB RAMP
ADJ	ADJUST
APPROX	APPROXIMATE
BIT	BITUMINOUS
BS	BOTTOM OF SLOPE
BWLL	BROKEN WHITE LANE LINE
CONC	CONCRETE
DYCL	DOUBLE YELLOW CENTER LINE
EL	ELEVATION
ELEV	ELEVATION
EXIST	EXISTING
FDN	FOUNDATION
GRAN	GRANITE
GTD	GRADE TO DRAIN
LA	LANDSCAPE AREA
LOD	LIMIT OF DISTURBANCE
MAX	MAXIMUM
MIN	MINIMUM
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
PERF	PERFORATED
PROP	PROPOSED
REM	REMOVE
RET	RETAIN
R&D	REMOVE AND DISPOSE
R&R	REMOVE AND RESET
SWEL	SOLID WHITE EDGE LINE
SWLL	SOLID WHITE LANE LINE
TS	TOP OF SLOPE
TYP	TYPICAL
Utility	
CB	CATCH BASIN
CMP	CORRUGATED METAL PIPE
CO	CLEAN OUT
DCB	DOUBLE CATCH BASIN
DMH	DRAIN MANHOLE
DJ	DRAIN INLET
GIP	CAST IRON PIPE
COND	CONDUIT
DJP	DUCTILE IRON PIPE
ES	END SECTION
EW	END WALL
FES	FLARED END SECTION
F&G	FRAME AND GRATE
F&C	FRAME AND COVER
FM	FORCE MAIN
GT	GREASE TRAP
GJ	GUTTER INLET
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HH	ELECTRIC HANDHOLE
HW	HEADWALL
HYD	HYDRANT
MES	METAL END SECTION
INV	INVERT ELEVATION
=	INVERT ELEVATION
PWW	PAVED WATER WAY
PVC	POLYVINYLCHLORIDE PIPE
RCP	REINFORCED CONCRETE PIPE
R=	RIM ELEVATION
SMH	SEWER MANHOLE
TSV	TAPPING SLEEVE, VALVE AND BOX
UP	UTILITY POLE

Notes:

1. CONTRACTOR SHALL NOTIFY "DIG-SAFE" (1-888-344-7233) AT LEAST 72 HOURS BEFORE EXCAVATING.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR PROJECT AREA SECURITY AND JOB SAFETY. CONSTRUCTION ACTIVITIES SHALL BE IN ACCORDANCE WITH OSHA STANDARDS AND LOCAL REQUIREMENTS.
3. ACCESSIBLE ROUTES, PARKING SPACES, RAMPS, SIDEWALKS AND WALKWAYS SHALL BE CONSTRUCTED IN CONFORMANCE WITH THE FEDERAL AMERICANS WITH DISABILITIES ACT AND WITH STATE AND LOCAL LAWS AND REGULATIONS (WHICHEVER ARE MORE STRINGENT).
4. AREAS DISTURBED DURING CONSTRUCTION AND NOT RESTORED WITH IMPERVIOUS SURFACES (BUILDINGS, PAVEMENTS, WALKS, ETC.) SHALL RECEIVE 4 INCHES LOAM AND SEED.
5. WITHIN THE LIMITS OF THE BUILDING FOOTPRINT, THE SITE CONTRACTOR SHALL PERFORM EARTHWORK OPERATIONS REQUIRED UP TO SUBGRADE ELEVATIONS.
6. WORK WITHIN THE LOCAL RIGHTS-OF-WAY SHALL CONFORM TO LOCAL MUNICIPAL STANDARDS. WORK WITHIN STATE RIGHTS-OF-WAY SHALL CONFORM TO THE LATEST EDITION OF THE STATE HIGHWAY DEPARTMENTS STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.
7. UPON AWARD OF CONTRACT, CONTRACTOR SHALL MAKE NECESSARY CONSTRUCTION NOTIFICATIONS AND APPLY FOR AND OBTAIN NECESSARY PERMITS, PAY FEES, AND POST BONDS ASSOCIATED WITH THE WORK INDICATED ON THE DRAWINGS, IN THE SPECIFICATIONS, AND IN THE CONTRACT DOCUMENTS. DO NOT CLOSE OR OBSTRUCT ROADWAYS, SIDEWALKS, AND FIRE HYDRANTS, WITHOUT APPROPRIATE PERMITS.
8. TRAFFIC SIGNAGE AND PAVEMENT MARKINGS SHALL CONFORM TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
9. AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
10. IN THE EVENT THAT SUSPECTED CONTAMINATED SOIL, GROUNDWATER, AND OTHER MEDIA ARE ENCOUNTERED DURING EXCAVATION AND CONSTRUCTION ACTIVITIES BASED ON VISUAL, OLFACTORY, OR OTHER EVIDENCE, THE CONTRACTOR SHALL STOP WORK IN THE VICINITY OF THE SUSPECT MATERIAL TO AVOID FURTHER SPREADING OF THE MATERIAL, AND SHALL NOTIFY THE OWNER IMMEDIATELY SO THAT THE APPROPRIATE TESTING AND SUBSEQUENT ACTION CAN BE TAKEN.
11. CONTRACTOR SHALL PREVENT DUST, SEDIMENT, AND DEBRIS FROM EXITING THE PROJECT AREA AND SHALL BE RESPONSIBLE FOR CLEANUP, REPAIRS AND CORRECTIVE ACTION IF SUCH OCCURS.
12. DAMAGE RESULTING FROM CONSTRUCTION LOADS SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO OWNER.
13. CONTRACTOR SHALL CONTROL STORMWATER RUNOFF DURING CONSTRUCTION TO PREVENT ADVERSE IMPACTS TO OFF SITE AREAS, AND SHALL BE RESPONSIBLE TO REPAIR RESULTING DAMAGES, IF ANY, AT NO COST TO OWNER.
14. THIS PROJECT DISTURBS MORE THAN ONE ACRE OF LAND AND FALLS WITHIN THE NPDES CONSTRUCTION GENERAL PERMIT (CGP) PROGRAM AND EPA JURISDICTION. PRIOR TO THE START OF CONSTRUCTION CONTRACTOR IS TO AMEND THE EXISTING CGP FOR THE QUINCY CENTER CONCOURSE TO INCLUDE THE EXPANDED SCOPE OF WORK IN THESE DRAWINGS. CONTRACTOR IS TO FILE AN AMENDED NOTICE OF INTENT WITH THE EPA AND PREPARE A STORMWATER POLLUTION PREVENTION PLAN IN ACCORDANCE WITH NPDES REGULATIONS. CONTRACTOR SHALL CONFIRM THE CITY HAS ALSO FILED A NOTICE OF INTENT WITH THE EPA.

Utilities

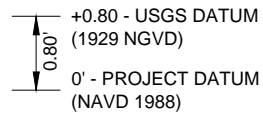
1. THE LOCATIONS, SIZES, AND TYPES OF EXISTING UTILITIES ARE SHOWN AS AN APPROXIMATE REPRESENTATION ONLY. THE OWNER OR ITS REPRESENTATIVE(S) HAVE NOT INDEPENDENTLY VERIFIED THIS INFORMATION AS SHOWN ON THE PLANS. THE UTILITY INFORMATION SHOWN DOES NOT GUARANTEE THE ACTUAL EXISTENCE, SERVICEABILITY, OR OTHER DATA CONCERNING THE UTILITIES, NOR DOES IT GUARANTEE AGAINST THE POSSIBILITY THAT ADDITIONAL UTILITIES MAY BE PRESENT THAT ARE NOT SHOWN ON THE PLANS. PRIOR TO ORDERING MATERIALS AND BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL VERIFY AND DETERMINE THE EXACT LOCATIONS, SIZES, AND ELEVATIONS OF THE POINTS OF CONNECTIONS TO EXISTING UTILITIES AND, SHALL CONFIRM THAT THERE ARE NO INTERFERENCES WITH EXISTING UTILITIES AND THE PROPOSED UTILITY ROUTES, INCLUDING ROUTES WITHIN THE PUBLIC RIGHTS OF WAY.
2. WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, OR EXISTING CONDITIONS DIFFER FROM THOSE SHOWN SUCH THAT THE WORK CANNOT BE COMPLETED AS INTENDED, THE LOCATION, ELEVATION, AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED IN WRITING TO THE OWNER'S REPRESENTATIVE FOR THE RESOLUTION OF THE CONFLICT AND CONTRACTOR'S FAILURE TO NOTIFY PRIOR TO PERFORMING ADDITIONAL WORK RELEASES OWNER FROM OBLIGATIONS FOR ADDITIONAL PAYMENTS WHICH OTHERWISE MAY BE WARRANTED TO RESOLVE THE CONFLICT.
3. SET CATCH BASIN RIMS, AND INVERTS OF SEWERS, DRAINS, AND DITCHES IN ACCORDANCE WITH ELEVATIONS ON THE GRADING AND UTILITY PLANS.
4. RIM ELEVATIONS FOR DRAIN AND SEWER MANHOLES, WATER VALVE COVERS, GAS GATES, ELECTRIC AND TELEPHONE PULL BOXES, AND MANHOLES, AND OTHER SUCH ITEMS, ARE APPROXIMATE AND SHALL BE SET/RESET AS FOLLOWS:
 - A. PAVEMENTS AND CONCRETE SURFACES: FLUSH
 - B. ALL SURFACES ALONG ACCESSIBLE ROUTES: FLUSH
 - C. LANDSCAPE, LOAM AND SEED, AND OTHER EARTH SURFACE AREAS: ONE INCH ABOVE SURROUNDING AREA AND TAPER EARTH TO THE RIM ELEVATION.
5. THE LOCATION, SIZE, DEPTH, AND SPECIFICATIONS FOR CONSTRUCTION OF PROPOSED PRIVATE UTILITY SERVICES SHALL BE INSTALLED ACCORDING TO THE REQUIREMENTS PROVIDED BY, AND APPROVED BY, THE RESPECTIVE UTILITY COMPANY (GAS, TELEPHONE, ELECTRIC, FIRE ALARM, ETC.). FINAL DESIGN LOADS AND LOCATIONS TO BE COORDINATED WITH OWNER AND ARCHITECT.
6. CONTRACTOR SHALL MAKE ARRANGEMENTS FOR AND SHALL BE RESPONSIBLE FOR PAYING FEES FOR POLE RELOCATION AND FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE, FIRE ALARM, AND ANY OTHER PRIVATE UTILITIES, WHETHER WORK IS PERFORMED BY CONTRACTOR OR BY THE UTILITIES COMPANY.
7. UTILITY PIPE MATERIALS SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED ON THE PLAN:
 - A. WATER PIPES SHALL BE DUCTILE IRON PIPE
 - B. SANITARY SEWER PIPES SHALL BE POLYVINYL CHLORIDE (PVC) SEWER PIPE, SECTIONS OF SEWER INSTALLED BENEATH THE PROPOSED CULVERT ARE TO BE SDR 35 ENCASED IN CONCRETE.
 - C. STORM DRAINAGE PIPES SHALL BE CLASS 5 RCP, UNLESS OTHERWISE SPECIFIED
8. CONTRACTOR SHALL COORDINATE WITH ELECTRICAL CONTRACTOR AND SHALL FURNISH EXCAVATION, INSTALLATION, AND BACKFILL OF ELECTRICAL FURNISHED SITEWORK RELATED ITEMS SUCH AS PULL BOXES, CONDUITS, DUCT BANKS, LIGHT POLE BASES, AND CONCRETE PADS. SITE CONTRACTOR SHALL FURNISH CONCRETE ENCASEMENT OF DUCT BANKS IF REQUIRED BY THE UTILITY COMPANY AND AS INDICATED ON THE DRAWINGS.
9. CONTRACTOR SHALL EXCAVATE AND BACKFILL TRENCHES FOR GAS IN ACCORDANCE WITH GAS COMPANY'S REQUIREMENTS.
10. ALL DRAINAGE AND SANITARY STRUCTURE INTERIOR DIAMETERS (4' MIN.) SHALL BE DETERMINED BY THE MANUFACTURER BASED ON THE PIPE CONFIGURATIONS SHOWN ON THESE PLANS AND LOCAL MUNICIPAL STANDARDS. FOR MANHOLES THAT ARE 20 FEET IN DEPTH AND GREATER, THE MINIMUM DIAMETER SHALL BE 5 FEET.

2. CURBING SHALL BE VGC WITHIN THE PROJECT LIMITS UNLESS OTHERWISE INDICATED ON THE PLANS.
3. PROPOSED BOUNDS AND ANY EXISTING PROPERTY LINE MONUMENTATION DISTURBED DURING CONSTRUCTION SHALL BE SET OR RESET BY A PROFESSIONAL LICENSED SURVEYOR.
4. PRIOR TO START OF CONSTRUCTION, CONTRACTOR SHALL VERIFY EXISTING PAVEMENT ELEVATIONS AT INTERFACE WITH PROPOSED PAVEMENTS, AND EXISTING GROUND ELEVATIONS ADJACENT TO DRAINAGE OUTLETS TO ASSURE PROPER TRANSITIONS BETWEEN EXISTING AND PROPOSED FACILITIES.
5. SYMBOLS AND LEGENDS OF PROJECT FEATURES ARE GRAPHIC REPRESENTATIONS AND ARE NOT NECESSARILY SCALED TO THEIR ACTUAL DIMENSIONS OR LOCATIONS ON THE DRAWINGS. THE CONTRACTOR SHALL REFER TO THE DETAIL SHEET DIMENSIONS, MANUFACTURERS' LITERATURE, SHOP DRAWINGS AND FIELD MEASUREMENTS OF SUPPLIED PRODUCTS FOR LAYOUT OF THE PROJECT FEATURES.
6. CONTRACTOR SHALL NOT RELY SOLELY ON ELECTRONIC VERSIONS OF PLANS, SPECIFICATIONS, AND DATA FILES THAT ARE OBTAINED FROM THE DESIGNERS, BUT SHALL VERIFY LOCATION OF PROJECT FEATURES IN ACCORDANCE WITH THE PAPER COPIES OF THE PLANS AND SPECIFICATIONS THAT ARE SUPPLIED AS PART OF THE CONTRACT DOCUMENTS.

1. CONTRACTOR SHALL REMOVE AND DISPOSE OF EXISTING MANMADE SURFACE FEATURES WITHIN THE LIMIT OF WORK INCLUDING BUILDINGS, STRUCTURES, PAVEMENTS, SLABS, CURBING, FENCES, UTILITY POLES, SIGNS, ETC. UNLESS INDICATED OTHERWISE ON THE DRAWINGS. REMOVE AND DISPOSE OF EXISTING UTILITIES, FOUNDATIONS AND UNSUITABLE MATERIAL BENEATH AND FOR A DISTANCE OF 10 FEET BEYOND THE PROPOSED BUILDING FOOTPRINT INCLUDING EXTERIOR COLUMNS.
2. EXISTING UTILITIES SHALL BE TERMINATED, UNLESS OTHERWISE NOTED, IN CONFORMANCE WITH LOCAL, STATE AND INDIVIDUAL UTILITY COMPANY STANDARD SPECIFICATIONS AND DETAILS. THE CONTRACTOR SHALL COORDINATE UTILITY SERVICE DISCONNECTS WITH THE UTILITY REPRESENTATIVES.
3. CONTRACTOR SHALL DISPOSE OF DEMOLITION DEBRIS IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS, ORDINANCES AND STATUTES.

1. PRIOR TO STARTING ANY OTHER WORK IN THE PROJECT AREA, THE CONTRACTOR SHALL NOTIFY APPROPRIATE AGENCIES AND SHALL INSTALL EROSION CONTROL MEASURES AS SHOWN ON THE PLANS AND AS IDENTIFIED IN FEDERAL, STATE, AND LOCAL APPROVAL DOCUMENTS PERTAINING TO THIS PROJECT.
2. CONTRACTOR SHALL INSPECT AND MAINTAIN EROSION CONTROL MEASURES, AND REMOVE SEDIMENT THEREFROM ON A WEEKLY BASIS AND WITHIN TWELVE HOURS AFTER EACH STORM EVENT AND DISPOSE OF SEDIMENTS IN AN UPLAND AREA SUCH THAT THEY DO NOT ENCUMBER OTHER DRAINAGE STRUCTURES AND PROTECTED AREAS.
3. CONTRACTOR SHALL BE FULLY RESPONSIBLE TO CONTROL CONSTRUCTION SUCH THAT SEDIMENTATION SHALL NOT AFFECT REGULATORY PROTECTED AREAS, WHETHER SUCH SEDIMENTATION IS CAUSED BY WATER, WIND, OR DIRECT DEPOSIT.
4. CONTRACTOR SHALL PERFORM CONSTRUCTION SEQUENCING SUCH THAT EARTH MATERIALS ARE EXPOSED FOR A MINIMUM OF TIME BEFORE THEY ARE COVERED, SEEDED, OR OTHERWISE STABILIZED TO PREVENT EROSION.
5. UPON COMPLETION OF CONSTRUCTION AND ESTABLISHMENT OF PERMANENT GROUND COVER, CONTRACTOR SHALL REMOVE AND DISPOSE OF EROSION CONTROL MEASURES AND CLEAN SEDIMENT AND DEBRIS FROM ENTIRE DRAINAGE AND SEWER SYSTEMS.

1. BASE PLAN: THE EXISTING CONDITIONS DEPICTED IN THIS PLAN SET WERE COMPILED FROM THE FOLLOWING SOURCES:
 - 1.1. CITY OF QUINCY - CONCOURSE ROADWAY PROJECT BASE PLAN
 - 1.2. HANCOCK ADAMS ASSOCIATES - QUINCY CENTER REDEVELOPMENT BASE PLAN
 - 1.3. VS LAND DATA - SUPPLEMENTAL ON THE GROUND SURVEY INFORMATION
2. TOPOGRAPHY: ELEVATIONS REFERENCED IN THESE DRAWINGS REFLECT NAVD 1988 ELEVATIONS. ELEVATIONS REFERENCED ON THE QUINCY CENTER CONCOURSE ROADWAY PLANS REFLECT 1929 NGVD ELEVATIONS.
3. DATUM RELATIONSHIP: BENCHMARKS MUST BE ESTABLISHED WITHIN THE PROXIMITY OF THE LIMIT OF WORK PRIOR TO THE BEGINNING OF CONSTRUCTION.
4. BENCHMARKS MUST BE SET BY A MASSACHUSETTS REGISTERED LAND SURVEYOR.



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Project Title

Quincy Center Redevelopment
Town Brook Enhancement
Project

QUINCY, MASSACHUSETTS

Drawing Title

Legend and General Notes

Drawing #

C-1 | Sheet 1 of 26

Project #

#

Date

Sept. 23, 2011

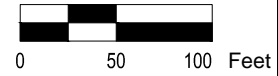
Notes

1. DETAIL ON TOWN BROOK CULVERT DIMENSIONS AND MATERIALS FOR SEGMENTS 6 TO 11, FROM "PLAN OF STORM DRAIN - TOWN BROOK - QUINCY, MASS", COMPILED IN 1941, AS REVISED THROUGH 1956, 1962 AND 1977, BY THE CITY ENGINEER. ELEVATIONS REFERENCED FROM ACTUAL FIELD SURVEY PROVIDED BY HANCOCK ADAMS ASSOCIATES, STEPHENSON DESIGN GROUP AND VS LAND DATA.
2. 100 AND 500 YEAR FLOOD PLAIN LIMITS SHOWN AS DEPICTED ON THE FEMA FLOOD INSURANCE RATE MAPS 2552190019D, 2552190057D, 2552190038D, 2552190076D, DATED MAY 16, 2006 NAVD 1988, AND AS MODIFIED BASED ON FIELD SURVEY PERFORMED NEAR PROJECT AREA.
3. BASE PLAN: THE EXISTING CONDITIONS DEPICTED IN THIS PLAN SET WERE COMPILED FROM THE FOLLOWING SOURCES:
 - 3.1. CITY OF QUINCY - CONCOURSE ROADWAY PROJECT BASE PLAN
 - 3.2. HANCOCK ADAMS ASSOCIATES - QUINCY CENTER REDEVELOPMENT BASE PLAN
 - 3.3. VS LAND DATA - SUPPLEMENTAL ON THE GROUND SURVEY INFORMATION

DRAWING NO. C-2.4

DRAWING NO. C-2.5

DRAWING NO. C-2.3



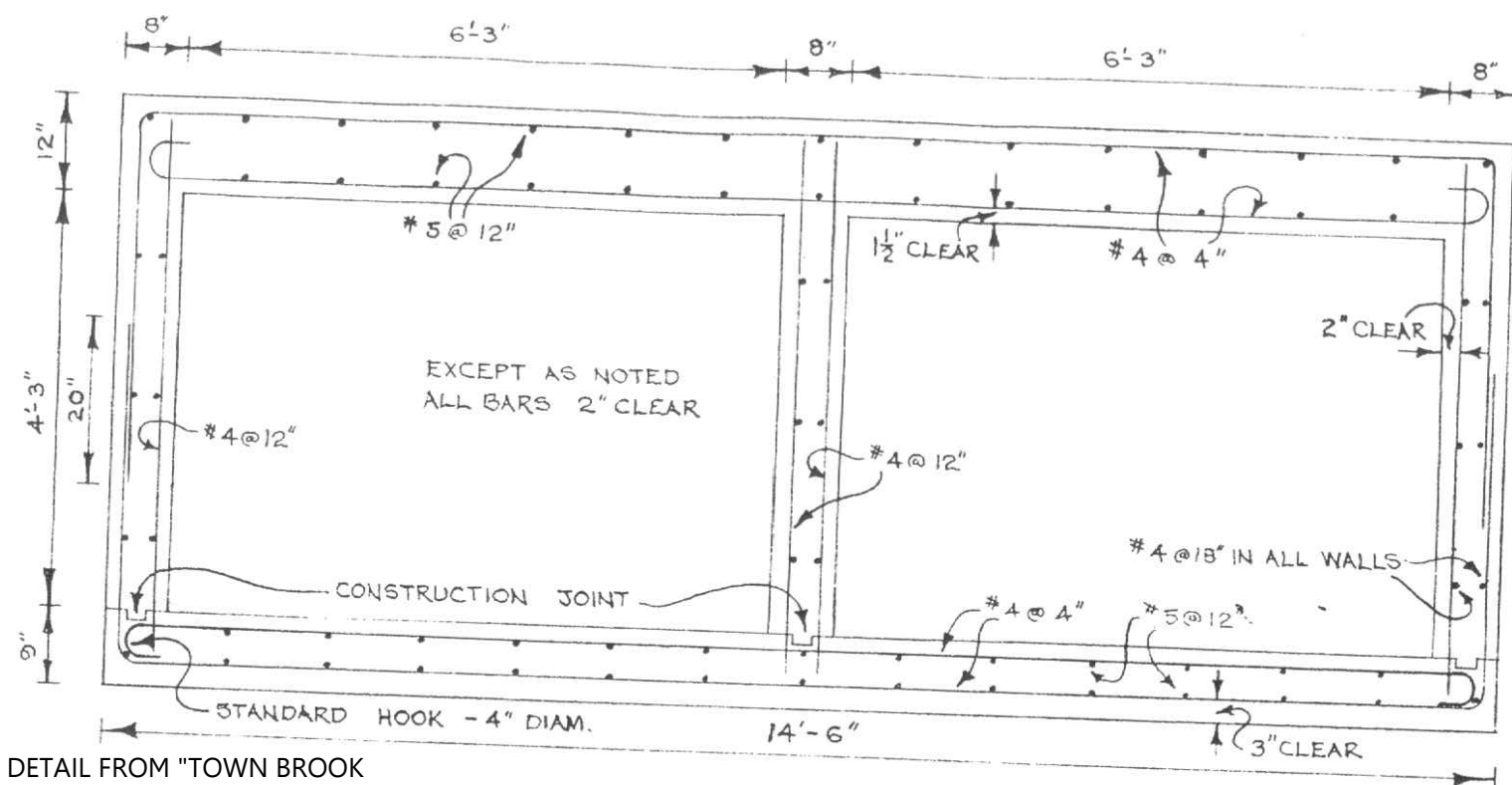
+0.80 - USGS DATUM
(1929 NGVD)
0' - PROJECT DATUM
(NAVD 1988)



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Project Title
Quincy Center Redevelopment
Town Brook Enhancement
Project
QUINCY, MASSACHUSETTS
Drawing Title
Existing Town Brook
Alignment and Key Sheet

Drawing # C-2.1	Sheet 2 of 26
Project # 10-006	Date Sept. 23, 2011



DETAIL FROM "TOWN BROOK STRUCTURES" DRAWING, "JOHN HANCOCK PARKING AREA", PREPARED FOR THE CITY OF QUINCY, DATED MAY 5, 1953, AS REVISED THROUGH JUNE 30, 1953.

TYPICAL SECTION
REINFORCED CONCRETE BOX CULVERT
SCALE: $\frac{1}{2}" = 1'-0"$

DETAIL TB1 - SEGMENT 2

APPROXIMATE EXISTING TOWN BROOK CULVERT ALIGNMENT:

SEGMENT 1 - STA 11+07 (EL.=9.6±) TO 11+84 (EL=10.3±)- OPEN CHANNEL
AVERAGE SLOPE THROUGH SEGMENT 1 = 1.14%
GRANITE/CONCRETE SIDEWALLS, CHANNEL BOTTOM VARIABLE MATERIAL
CHANNEL WIDTH VARIES 7.3' TO 8.5' WIDTH, CHANNEL DEPTH

SEGMENT 2 - STA 11+84 (EL=10.3±) TO STA 12+39 (EL=10.3±)- CULVERTED SECTION
AVERAGE SLOPE THROUGH SEGMENT 2 = 0.00%
TWIN 6'-3" WIDE BY 4'-3" HIGH - CONCRETE BOX CULVERTS
SEE DETAIL TB1

SEGMENT 3 - STA 12+39 (EL=10.3±) TO STA 15+82 (EL=12.7±) - PIPED SECTION
AVERAGE SLOPE THROUGH SEGMENT 3 = 0.70%
ARCHED CORRUGATED METAL PIPE (CMP-ARMCO) 6'-7" HIGH X 9'-9" WIDE
SEE DETAIL TB2

SEGMENT 4 - STA 15+82 (EL=12.7±) TO STA 16+00 (EL=13.0±) - OPEN CHANNEL
AVERAGE SLOPE THROUGH SEGMENT 4 = 1.67%
CONCRETE SIDEWALLS, CHANNEL BOTTOM VARIABLE MATERIAL
CHANNEL WITH VARIES 8.2' TO 10' WIDE

SEGMENT 5 - STA 16+00 (EL=13.0±) TO STA 19+38 (EL=12.3±) CULVERTED SECTION
AVERAGE SLOPE THROUGH SEGMENT 5 = -0.20%
CONCRETE/ GRANITE CHANNEL WITH VARIABLE DIMENSIONS/ MATERIALS

SEGMENT 6 - STA 19+38 (EL=12.3±) TO STA 19+76 (EL=12.39±) CULVERTED SECTION
AVERAGE SLOPE THROUGH SEGMENT 6 = 0.25%
STONE CULVERT 6'-6" HIGH X 9' WIDE

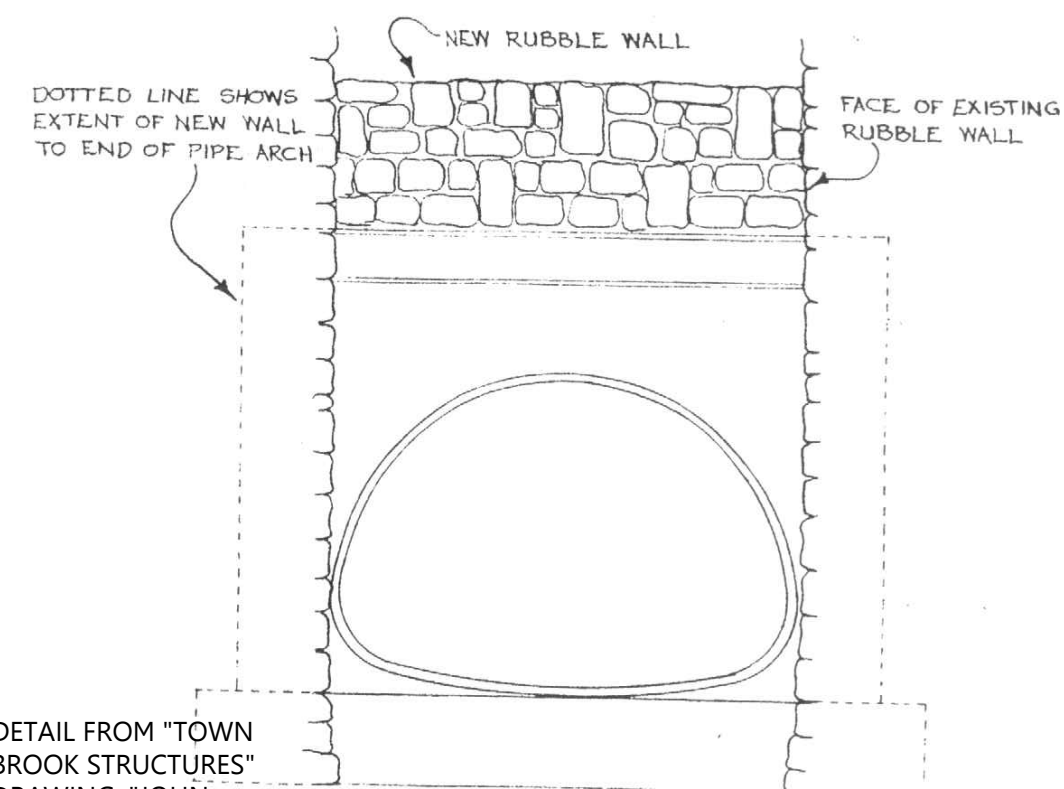
SEGMENT 7 - STA 19+76 (EL=12.30±) TO STA 21+40 (EL=12.8±) CULVERTED SECTION
AVERAGE SLOPE THROUGH SEGMENT 7 = 0.25%
STONE CULVERT 5'-6" HIGH X 9' WIDE

SEGMENT 8 - STA 21+40 (EL=12.8±) TO STA 22+00 (EL=12.94±) CULVERTED SECTION
AVERAGE SLOPE THROUGH SEGMENT 8 = 0.23%
CONCRETE CULVERT 5'-6" HIGH X 9' WIDE

SEGMENT 9 - STA 22+00 (EL=12.94±) TO STA 23+58 (EL=13.3±) CULVERTED SECTION
AVERAGE SLOPE THROUGH SEGMENT 9 = 0.23%
CONCRETE CULVERT 5'-6" HIGH X 9' WIDE

SEGMENT 10 - STA 23+58 (EL=13.3±) TO STA 26+25 (EL=13.5±) CULVERTED SECTION
AVERAGE SLOPE THROUGH SEGMENT 10 = 0.075%
CONCRETE CULVERT 5'-6" HIGH X 9' WIDE

SEGMENT 11 - STA 26+25 (EL=13.5±) TO STA 28+67 (EL=14.2±) CULVERTED SECTION
AVERAGE SLOPE THROUGH SEGMENT 11 = 0.29%
CONCRETED CULVERT 5'-6" HIGH X 9' WIDE



DETAIL FROM "TOWN BROOK STRUCTURES" DRAWING, "JOHN HANCOCK PARKING AREA", PREPARED FOR THE CITY OF QUINCY, DATED MAY 5, 1953, AS REVISED THROUGH JUNE 30, 1953.

END VIEW
WEST END OF PIPE-ARCH
SCALE: $\frac{1}{4}" = 1'-0"$

DETAIL TB2 - SEGMENT 3

+0.80 - USGS DATUM
(1929 NGVD)
0' - PROJECT DATUM
(NAVD 1988)



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Project Title

Quincy Center Redevelopment
Town Brook Enhancement
Project

QUINCY, MASSACHUSETTS

Drawing Title

Existing Town Brook
Alignment and Key Sheet

Drawing #

C-2.2

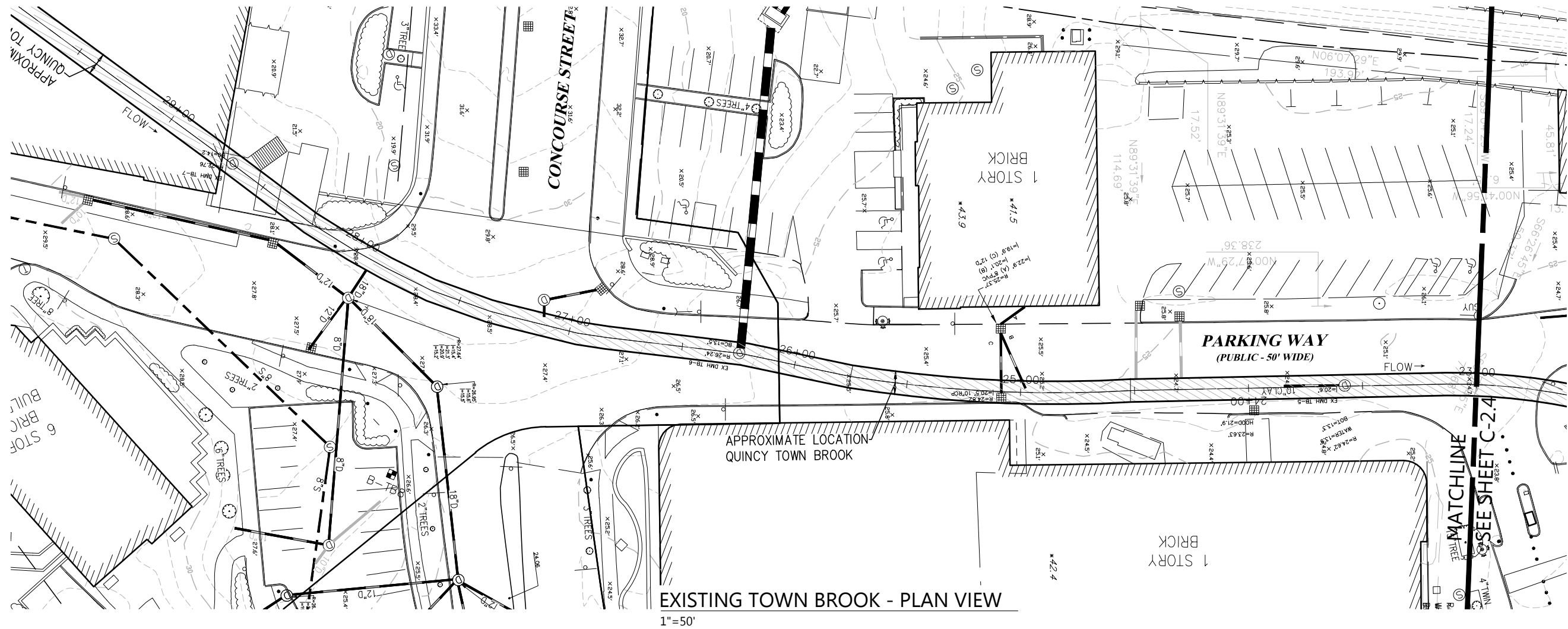
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Project #

10-006

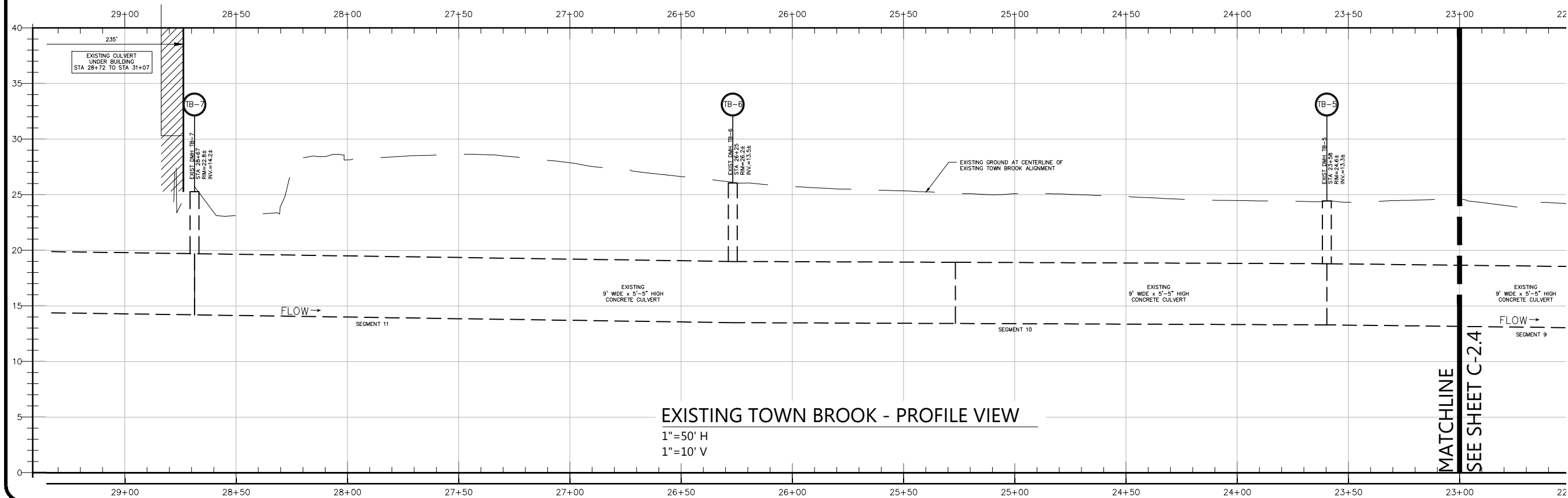
Date

Sept. 23, 2011



EXISTING TOWN BROOK - PLAN VIEW

1"=50'



EXISTING TOWN BROOK - PROFILE VIEW

1"=50' H
1"=10' V

Notes

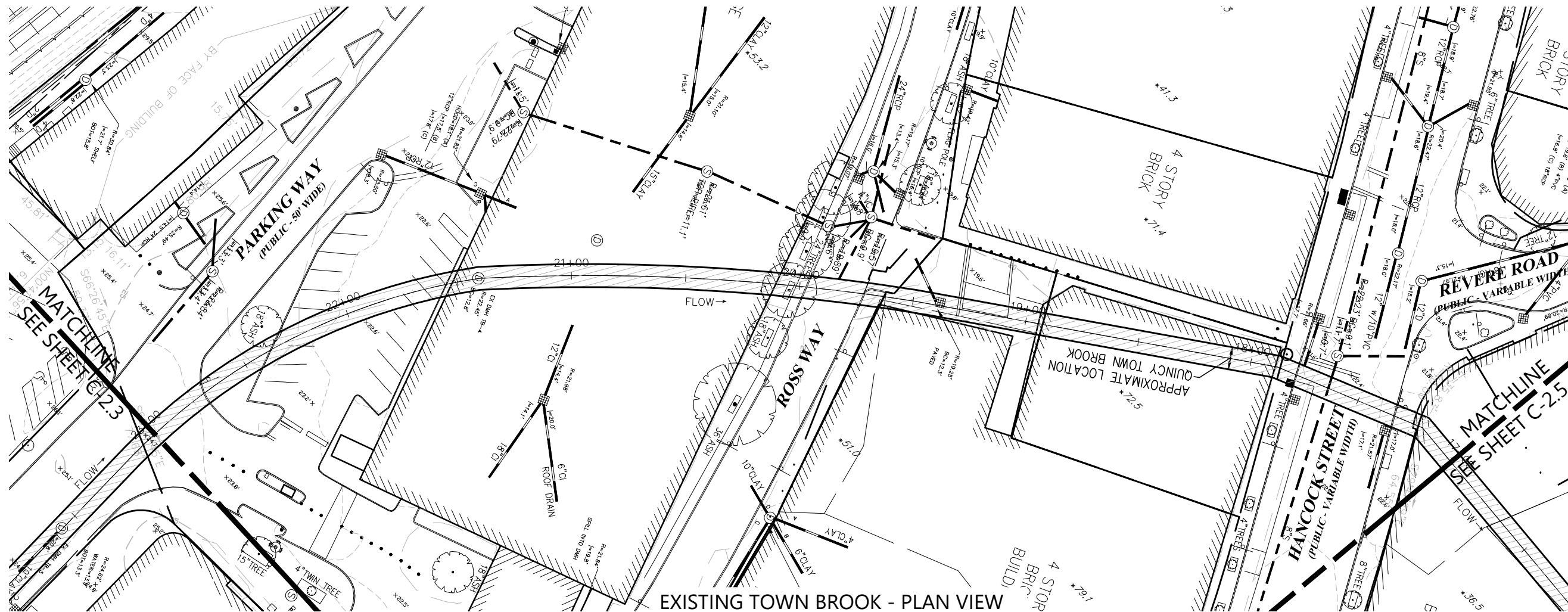
- ELEVATIONS REFERENCED IN THIS DRAWING REFLECT NAVD 1988 ELEVATIONS. ELEVATIONS REFERENCED FROM QUINCY CENTER CONCOURSE - SECTION 2 HAVE BEEN ADJUSTED FROM PREVIOUS DATUM (NAVD 1929) BY DATUM RELATIONSHIP ADJUSTMENTS SHOWN ON COVER PAGE.
- BASE PLAN: THE EXISTING CONDITIONS DEPICTED IN THIS PLAN SET WERE COMPILED FROM THE FOLLOWING SOURCES:
 - CITY OF QUINCY - CONCOURSE ROADWAY PROJECT BASE PLAN
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Plan and Profile

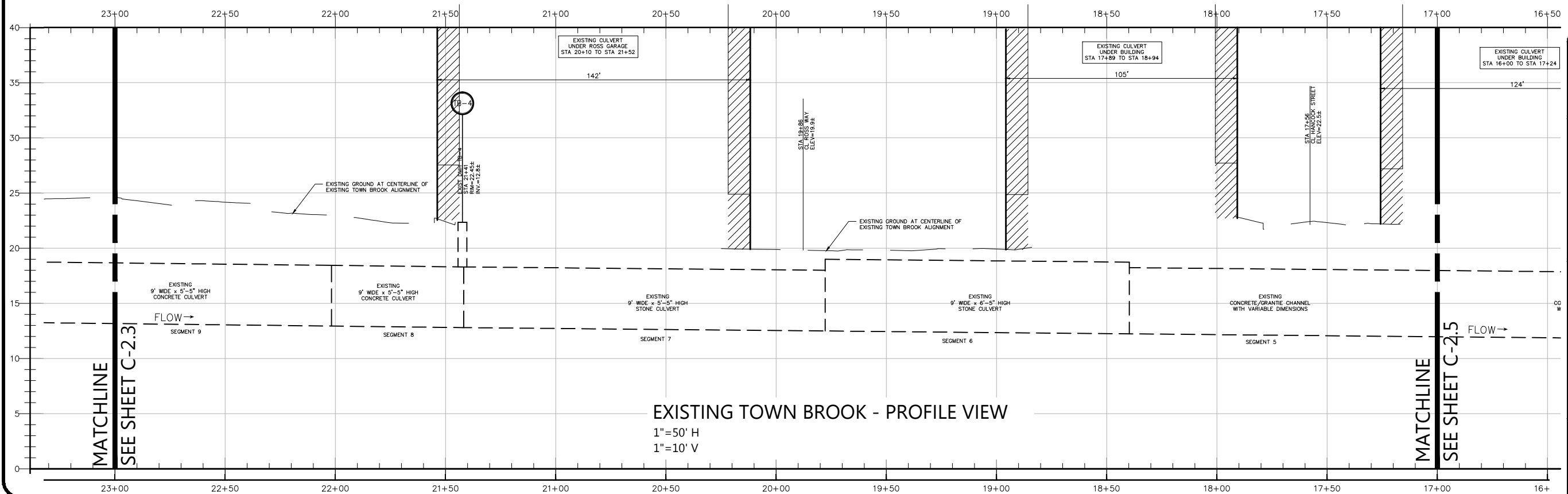
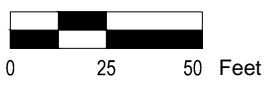
Drawing # C-2.3	Sheet 4 of 26
Project # 10-006	Date Sept. 23, 2011



EXISTING TOWN BROOK - PLAN VIEW
1"=50'

Notes

1. ELEVATIONS REFERENCED IN THIS DRAWING REFLECT NAVD 1988 ELEVATIONS. ELEVATIONS REFERENCED FROM QUINCY CENTER CONCOURSE - SECTION 2 HAVE BEEN ADJUSTED FROM PREVIOUS DATUM (NAVD 1929) BY DATUM RELATIONSHIP ADJUSTMENTS SHOWN ON COVER PAGE.
2. BASE PLAN: THE EXISTING CONDITIONS DEPICTED IN THIS PLAN SET WERE COMPILED FROM THE FOLLOWING SOURCES:
 - 2.1. CITY OF QUINCY - CONCOURSE ROADWAY PROJECT BASE PLAN
 - 2.2. HANCOCK ADAMS ASSOCIATES - QUINCY CENTER REDEVELOPMENT BASE PLAN
 - 2.3. VS LAND DATA - SUPPLEMENTAL ON THE GROUND SURVEY INFORMATION



EXISTING TOWN BROOK - PROFILE VIEW
1"=50' H
1"=10' V

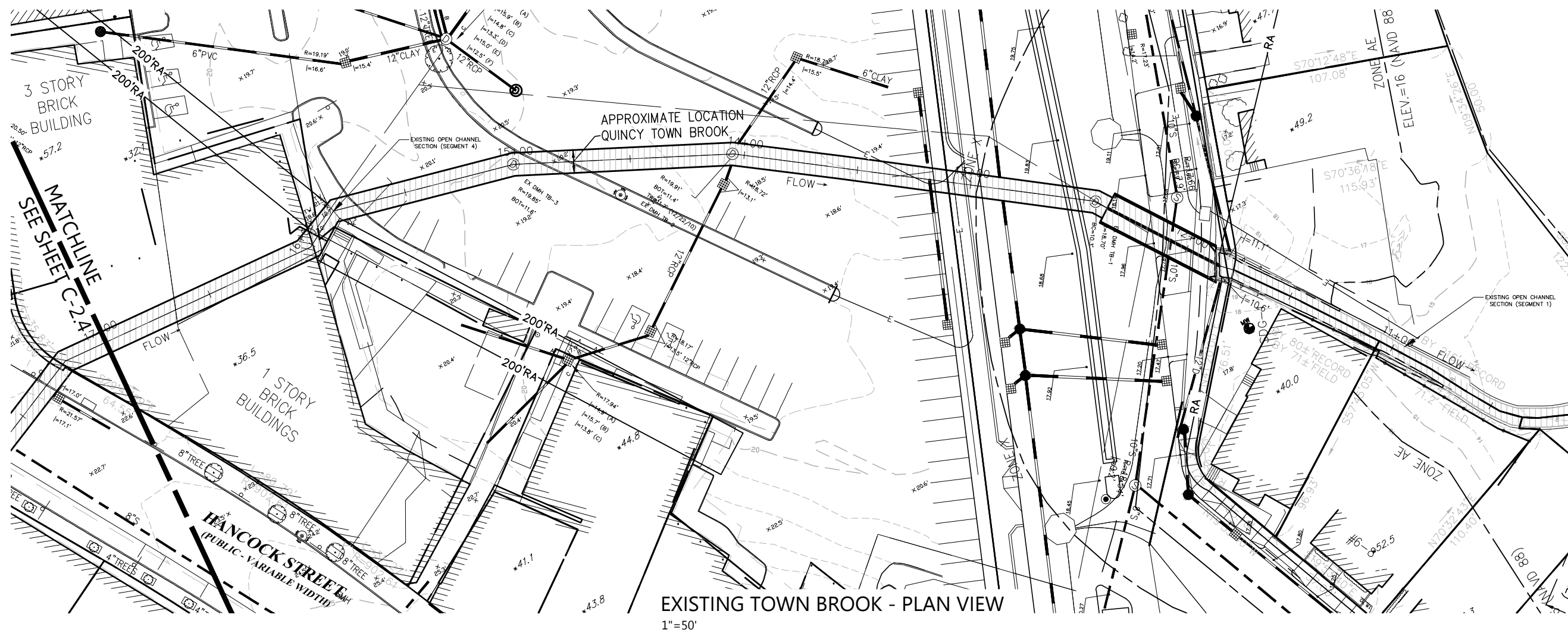
+0.80 - USGS DATUM
(1929 NGVD)
0' - PROJECT DATUM
(NAVD 1988)



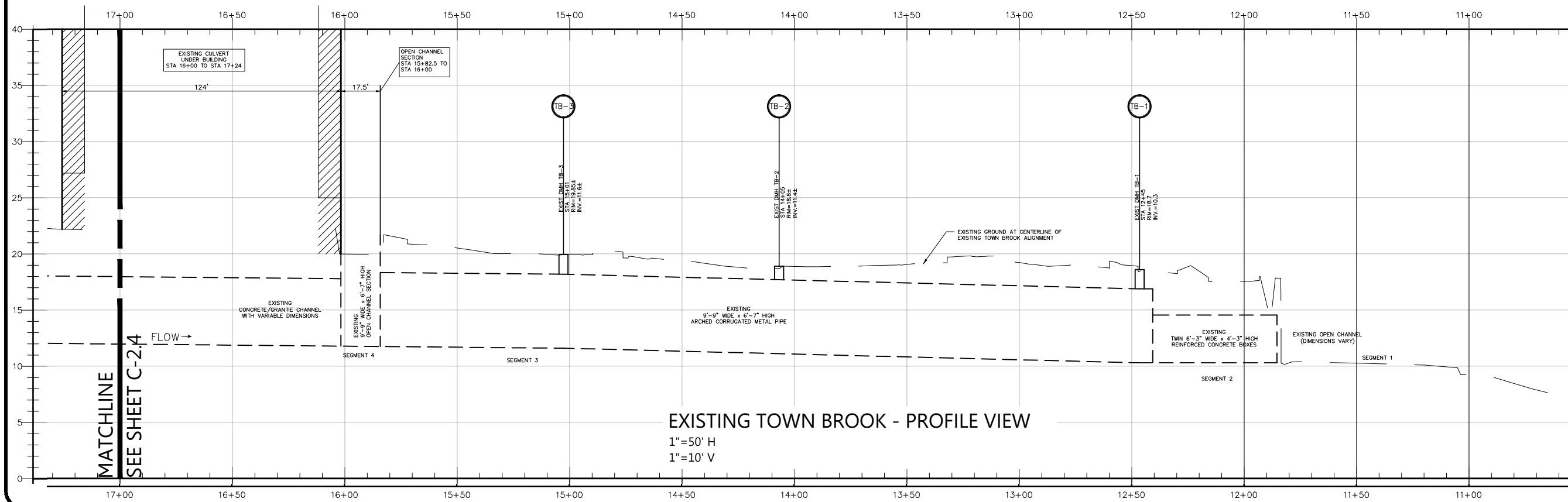
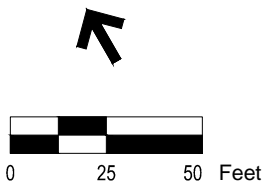
STEPHENSON DESIGN GROUP, LLC
Civil Engineering-Strategic Planning-Municipal Services
51 SLEEPER STREET, SUITE 600
BOSTON, MASSACHUSETTS 02210
PHONE: 617.695.7799

Project Title
Quincy Center Redevelopment
Town Brook Enhancement
Project
QUINCY, MASSACHUSETTS
Drawing Title
Existing Town Brook
Plan and Profile

Drawing # C-2.4	Sheet 5 of 26
Project # 10-006	Date Sept. 23, 2011



- ### Notes
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 - VS LAND DATA - SUPPLEMENTAL ON THE GROUND SURVEY INFORMATION



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 PHONE: 617.695.7799

Project Title
 Quincy Center Redevelopment
 Town Brook Enhancement
 Project

Quincy, Massachusetts

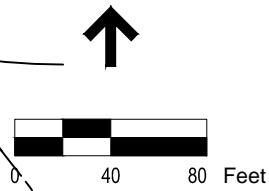
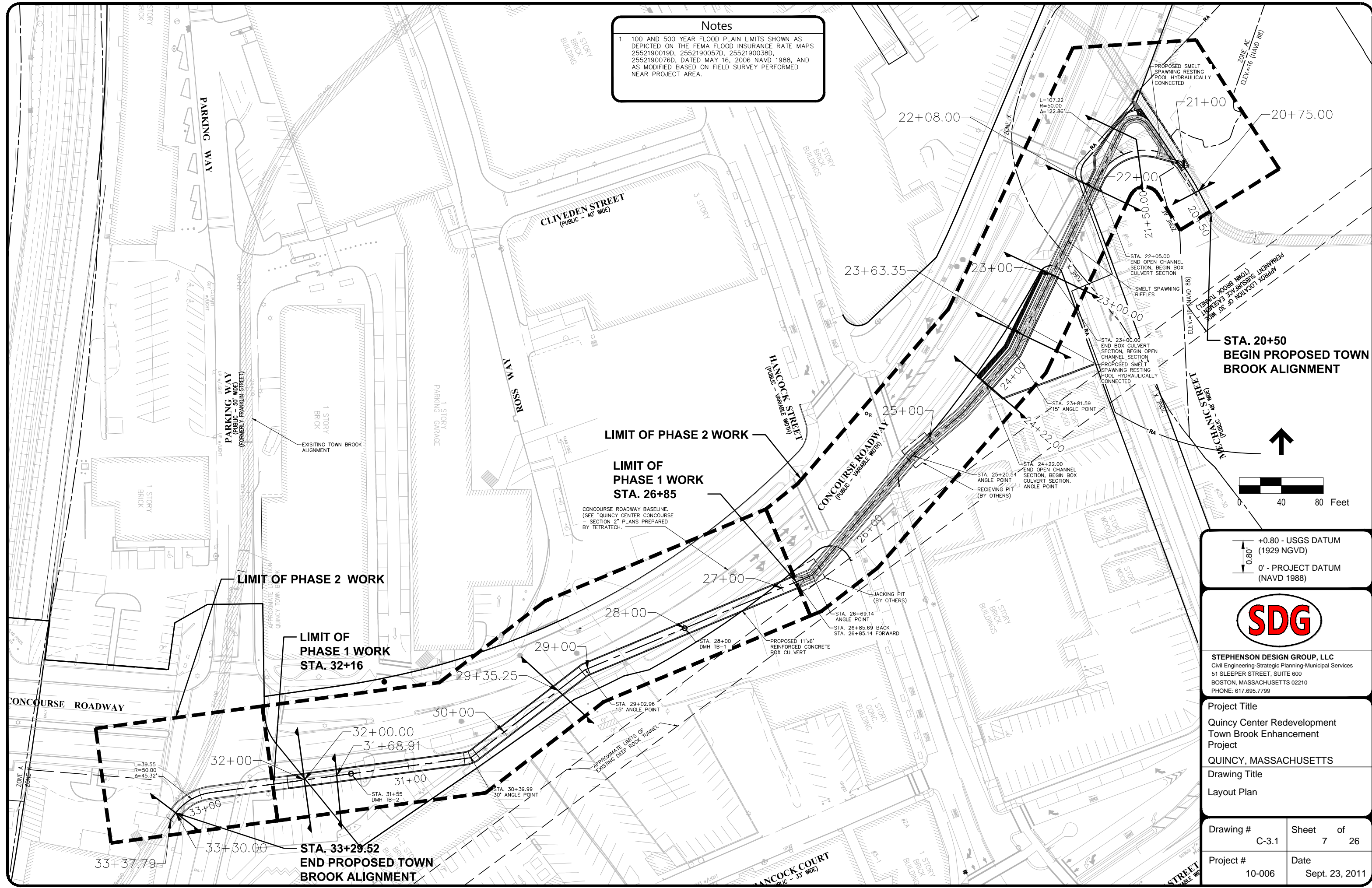
Drawing Title
 Existing Town Brook
 Plan and Profile

Drawing # C-2.5	Sheet 6 of 26
Project # 10-006	Date Sept. 23, 2011

+0.80' - USGS DATUM (1929 NGVD)
 0' - PROJECT DATUM (NAVD 1988)

Notes

1. 100 AND 500 YEAR FLOOD PLAIN LIMITS SHOWN AS DEPICTED ON THE FEMA FLOOD INSURANCE RATE MAPS 2552190019D, 2552190057D, 2552190038D, 2552190076D, DATED MAY 16, 2006 NAVD 1988, AND AS MODIFIED BASED ON FIELD SURVEY PERFORMED NEAR PROJECT AREA.



+0.80' - USGS DATUM (1929 NGVD)

0.80'

0' - PROJECT DATUM (NAVD 1988)

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BOSTON, MASSACHUSETTS 02210
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Project Title

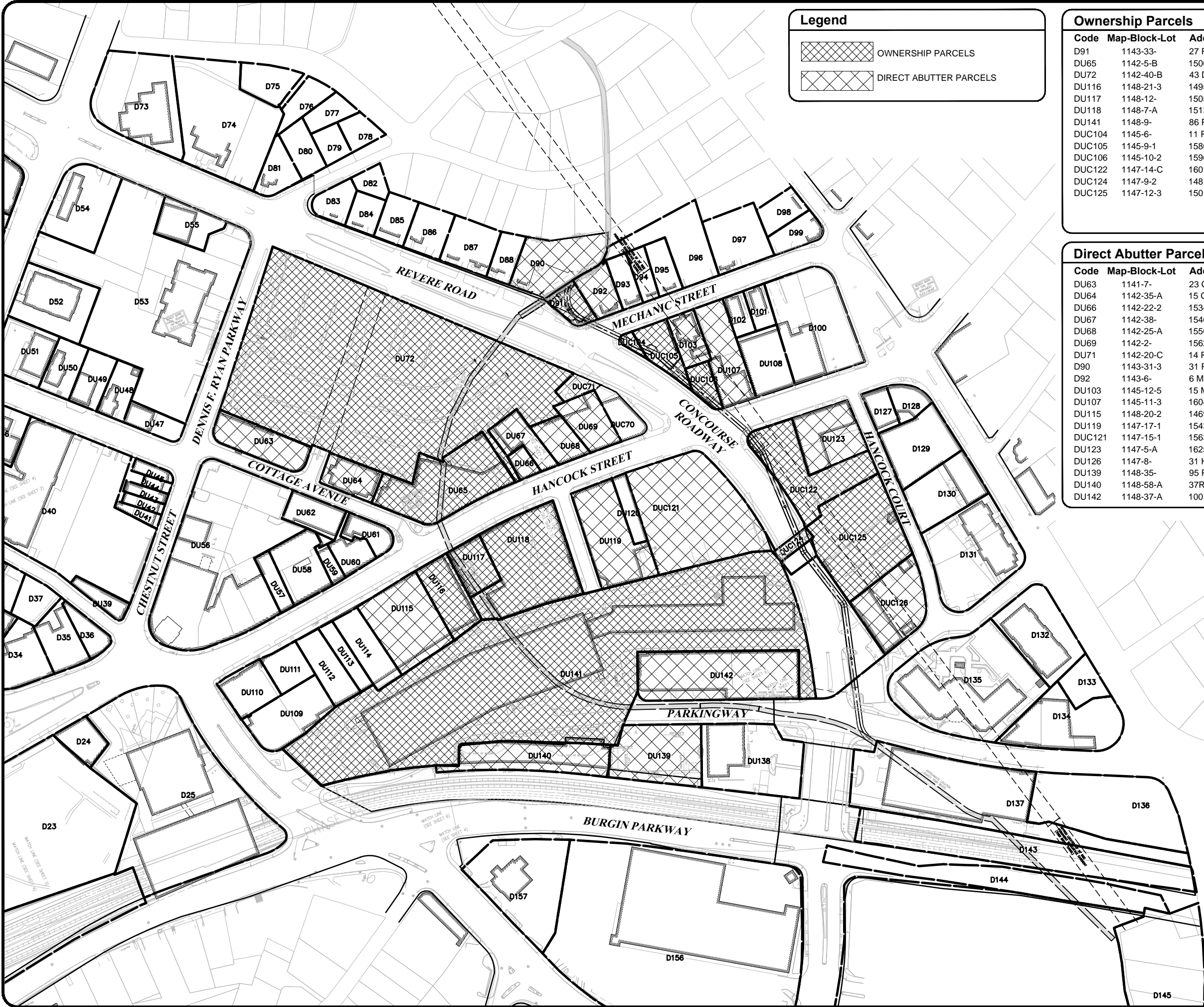
Quincy Center Redevelopment
Town Brook Enhancement
Project

QUINCY, MASSACHUSETTS


Drawing Title


Layout Plan

Drawing #	C-3.1	Sheet	7	of	26
Project #	10-006	Date	Sept. 23, 2011		



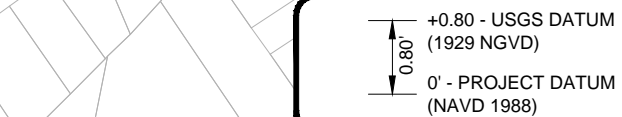
Legend

 OWNERSHIP PARCELS

 DIRECT ABUTTER PARCELS

Ownership Parcels			
Code	Map-Block-Lot	Address	Owner's Name
D91	1143-33-	27 REVERE ROAD	QUINCY POST 95
DU65	1142-5-B	1500 HANCOCK STREET (-1530)	DASSEX LIMITED (C/O RONEX CORP.)
DU72	1142-40-B	43 DENNIS F. RYAN PKWY(-83)	CITY OF QUINCY
DU116	1148-21-3	1495 HANCOCK STREET (-1497)	DANIEL JAMES REALTY, LLC
DU117	1148-12-	1505 HANCOCK STREET (-1511)	QUINCY COMMUNITY ACTION PROGRAM, INC.
DU118	1148-7-A	1513 HANCOCK STREET (-1537)	QUINCY LIMITED PARTNERSHIP (C/O ERL CATE)
DU141	1148-9-	86 PARKINGWAY	CITY OF QUINCY
DUC104	1145-6-	11 REVERE ROAD	CITY OF QUINCY
DUC105	1145-9-1	1586 HANCOCK STREET (-1594)	CITY OF QUINCY
DUC106	1145-10-2	1596 HANCOCK STREET (-1602)	CITY OF QUINCY
DUC122	1147-14-C	1601 HANCOCK STREET (-1621)	CITY OF QUINCY
DUC124	1147-9-2	148 PARKINGWAY	CITY OF QUINCY
DUC125	1147-12-3	150 PARKINGWAY THRU TO	ENTERPRISES LIMITED PARNTERSHIP

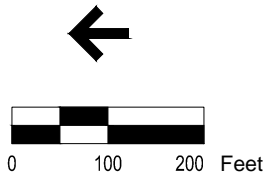
Direct Abutter Parcels			
Code	Map-Block-Lot	Address	Owner's Name
DU63	1141-7-	23 COTTAGE AVENUE (-29)	SULLIVAN JAMES M TRUSTEE
DU64	1142-35-A	15 COTTAGE AVENUE (-19)	BRISBANE LLC
DU66	1142-22-2	1534 HANCOCK STREET (-1538)	VARDAKOSTAS DEMETRIOS TREE
DU67	1142-38-	1546 HANCOCK STREET	KAUR MANDEEP TREE GURNEK REALTY TRUST
DU68	1142-25-A	1550 HANCOCK STREET (-1556)	VARDAKOSTAS DEMETRIOS TREE
DU69	1142-2-	1562 HANCOCK STREET (-1568)	ROBERTSON EILEEN FRANCES TREE
DU71	1142-20-C	14 REVERE ROAD	CITY OF QUINCY
D90	1143-31-3	31 REVERE ROAD	GOODMAN AIRLINE
D92	1143-6-	6 MECHANIC STREET (-8)	CARITAS COMMUNITIES
DU103	1145-12-5	15 MECHANIC STREET	BEDORE THOMAS J &
DU107	1145-11-3	1604 HANCOCK STREET (-1612)	AGNITTI ANTHONY L TREE
DU115	1148-20-2	1469 HANCOCK STREET (-1489)	WALCOTT CORP
DU119	1147-17-1	1543 HANCOCK STREET	RICCIARDI DANA D TREE
DUC121	1147-15-1	1563 HANCOCK STREET (-1597)	MESSINA QUINCY FAIR LIMITED PARTNERSHIP
DU123	1147-5-A	1625 HANCOCK STREET (-1639)	MACA REALTY CORPORATION
DU126	1147-8-	31 HANCOCK COURT	PARKINGWAY ENTERPRISES LP
DU139	1148-35-	95 PARKINGWAY (-109)	MIRANDA CARL H ETAL TREES
DU140	1148-58-A	37R PARKINGWAY (-93)	MIRANDA CARL H ETAL TREES
DU142	1148-37-A	100 PARKINGWAY (-134)	ATLANTIC-QUINCY REALTY LLC

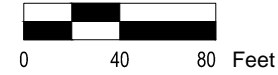
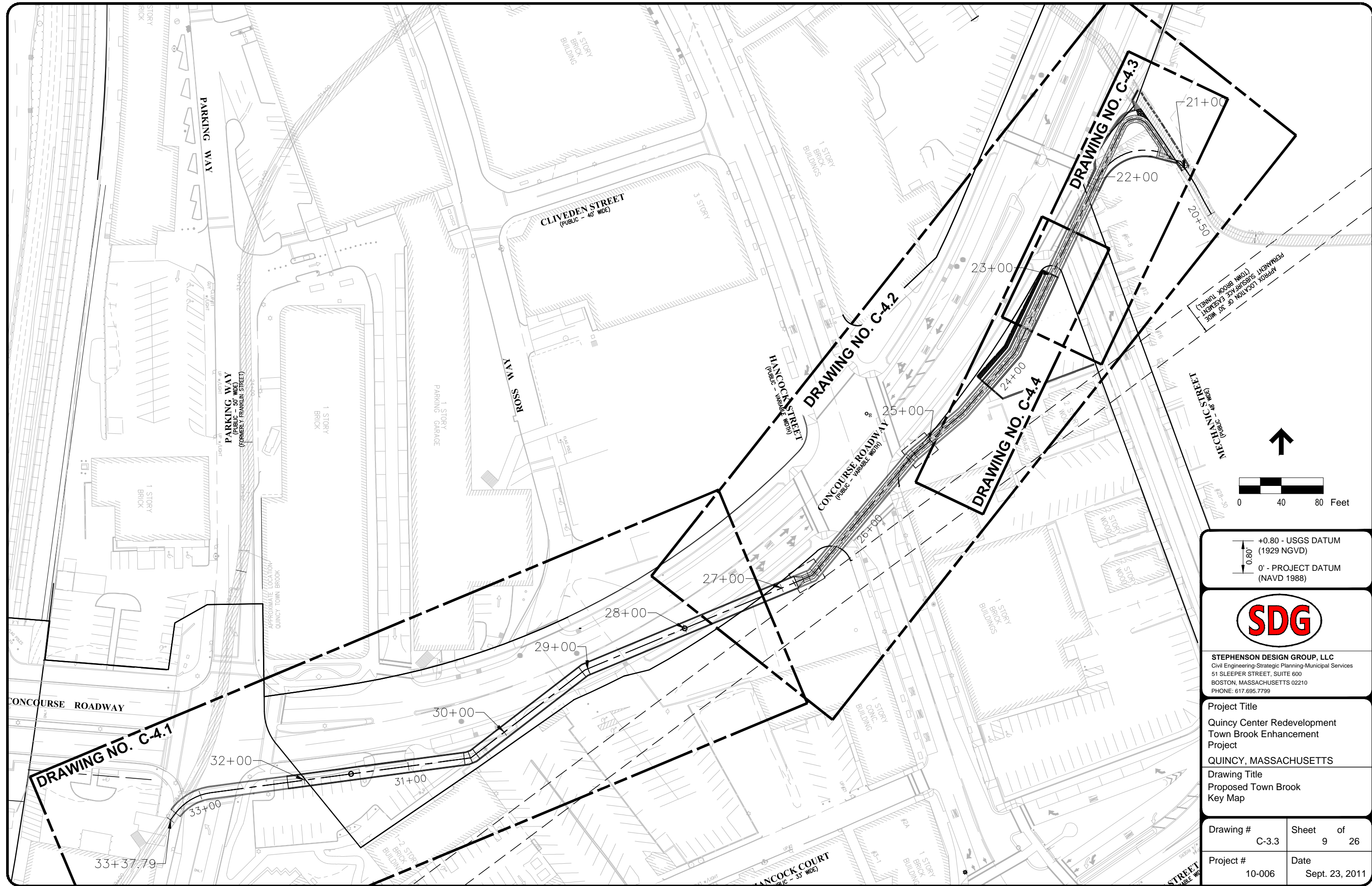


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Project Title
Quincy Center Redevelopment
Town Brook Enhancement
Project
QUINCY, MASSACHUSETTS
Drawing Title
Ownership and Abutters Plan

Drawing # C-3.2	Sheet 8	of 26
Project # 10-006	Date Sept. 23, 2011	





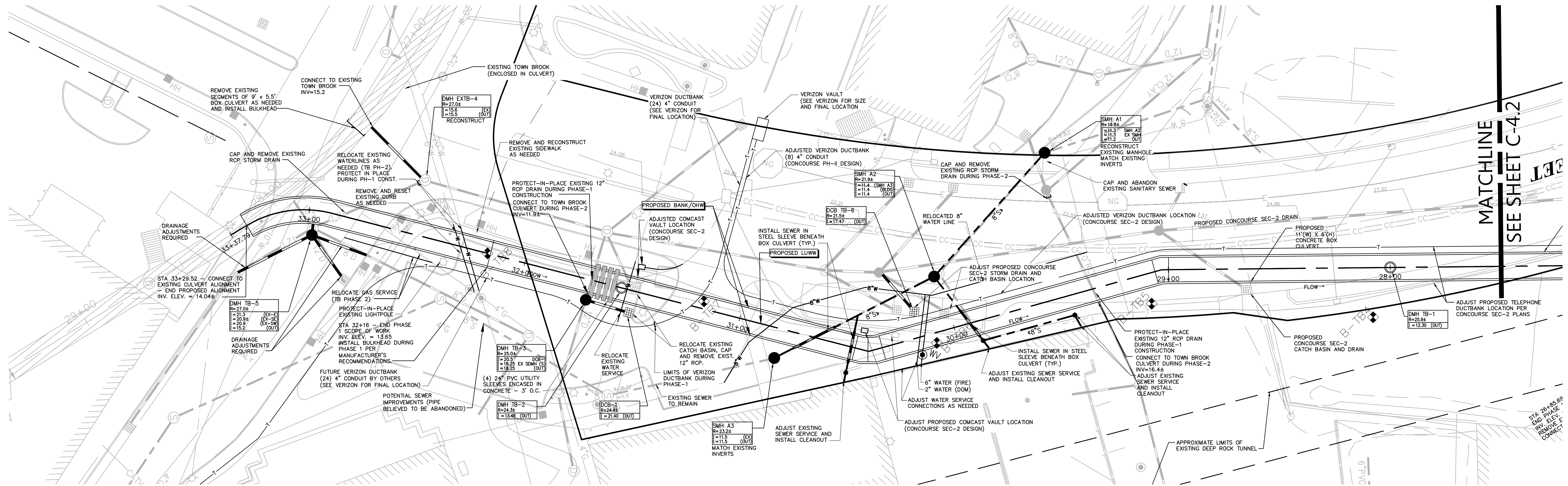
+0.80 - USGS DATUM
(1929 NGVD)
0' - PROJECT DATUM
(NAVD 1988)



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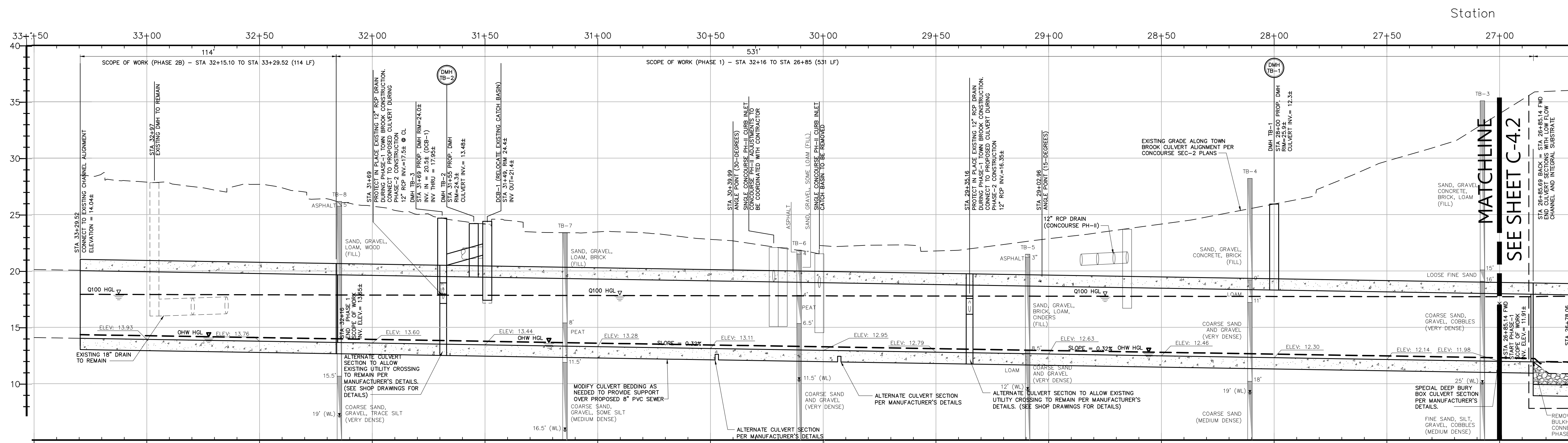
Project Title
Quincy Center Redevelopment
Town Brook Enhancement
Project
QUINCY, MASSACHUSETTS
Drawing Title
Proposed Town Brook
Key Map

Drawing # C-3.3	Sheet 9	of 26
Project # 10-006	Date Sept. 23, 2011	



PROPOSED TOWN BROOK - PLAN VIEW

1"=50'



PROPOSED TOWN BROOK - PROFILE VIEW

1"=50' H

1"=10' V

Notes

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PHONE: 617.695.7799

Project Title

Quincy Center Redevelopment
Town Brook Enhancement
Project

QUINCY, MASSACHUSETTS

Drawing Title

Proposed Town Brook
Plan and Profile

Drawing #

C-4.1

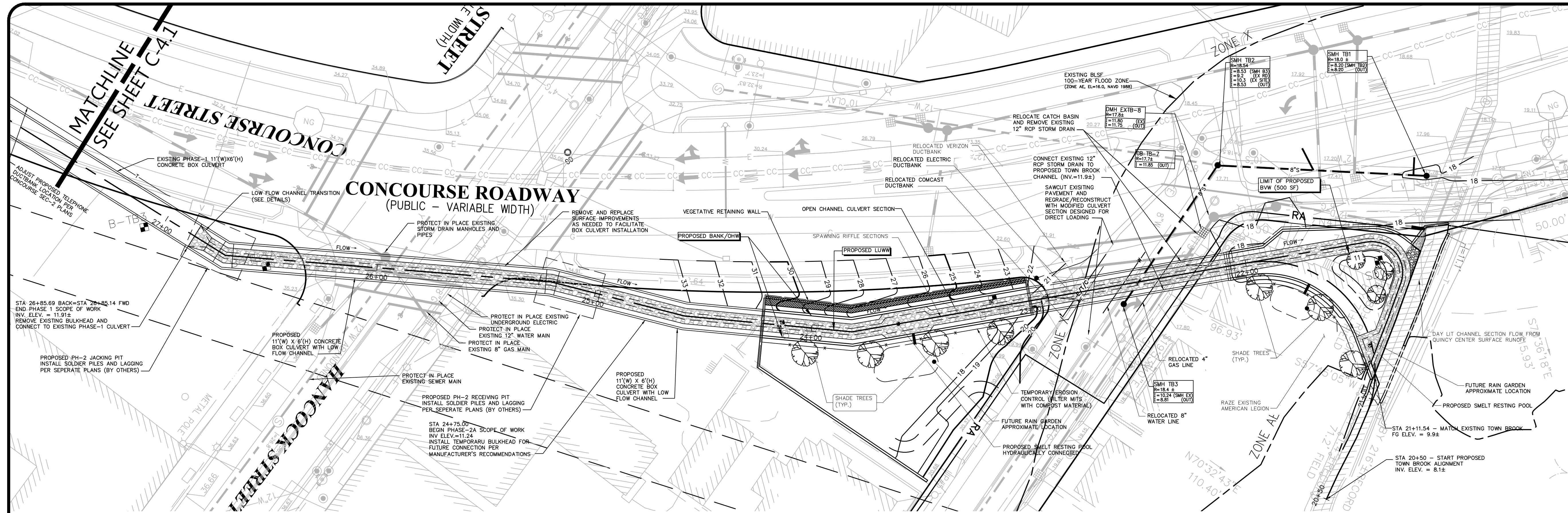
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Project #

10-006

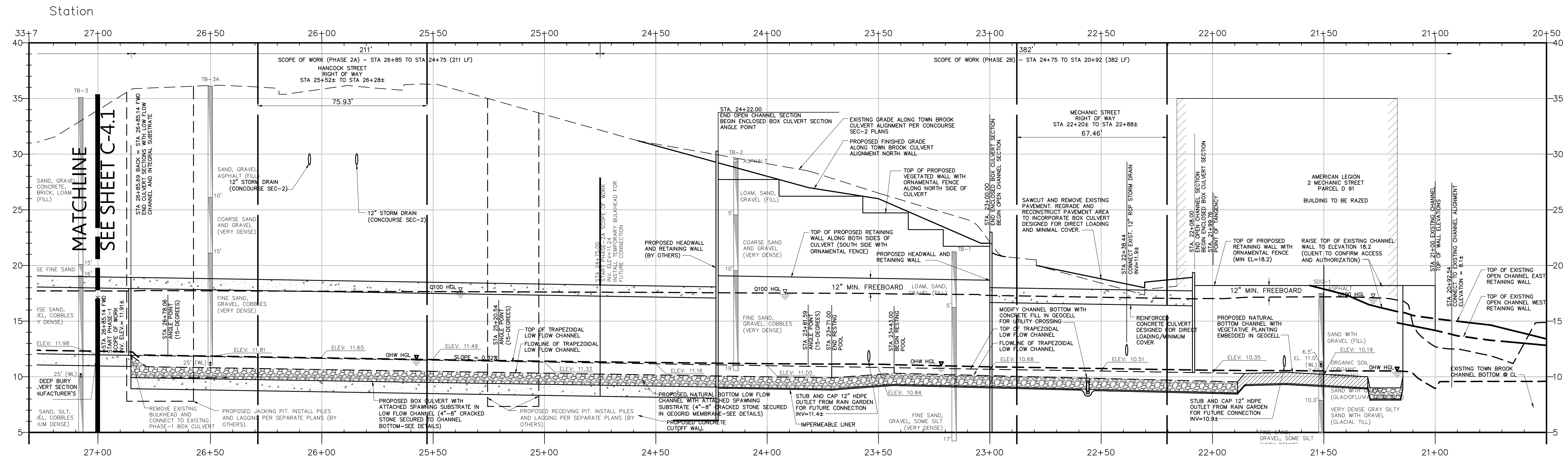
Date

Sept. 23, 2011



PROPOSED TOWN BROOK - PLAN VIEW

1"=50'



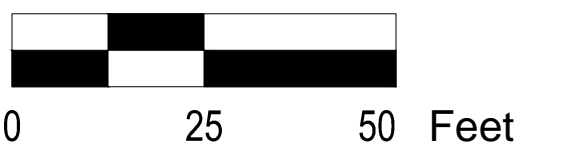
PROPOSED TOWN BROOK - PROFILE VIEW

1"=50' H

1"=10' V

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+0.80 - USGS DATUM (1929 NGVD)
0' - PROJECT DATUM (NAVD 1988)



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PHONE: 617.695.7799

Project Title

Quincy Center Redevelopment
Town Brook Enhancement
Project

QUINCY, MASSACHUSETTS

Drawing Title

Proposed Town Brook
Plan and Profile

Drawing #

C-4.2

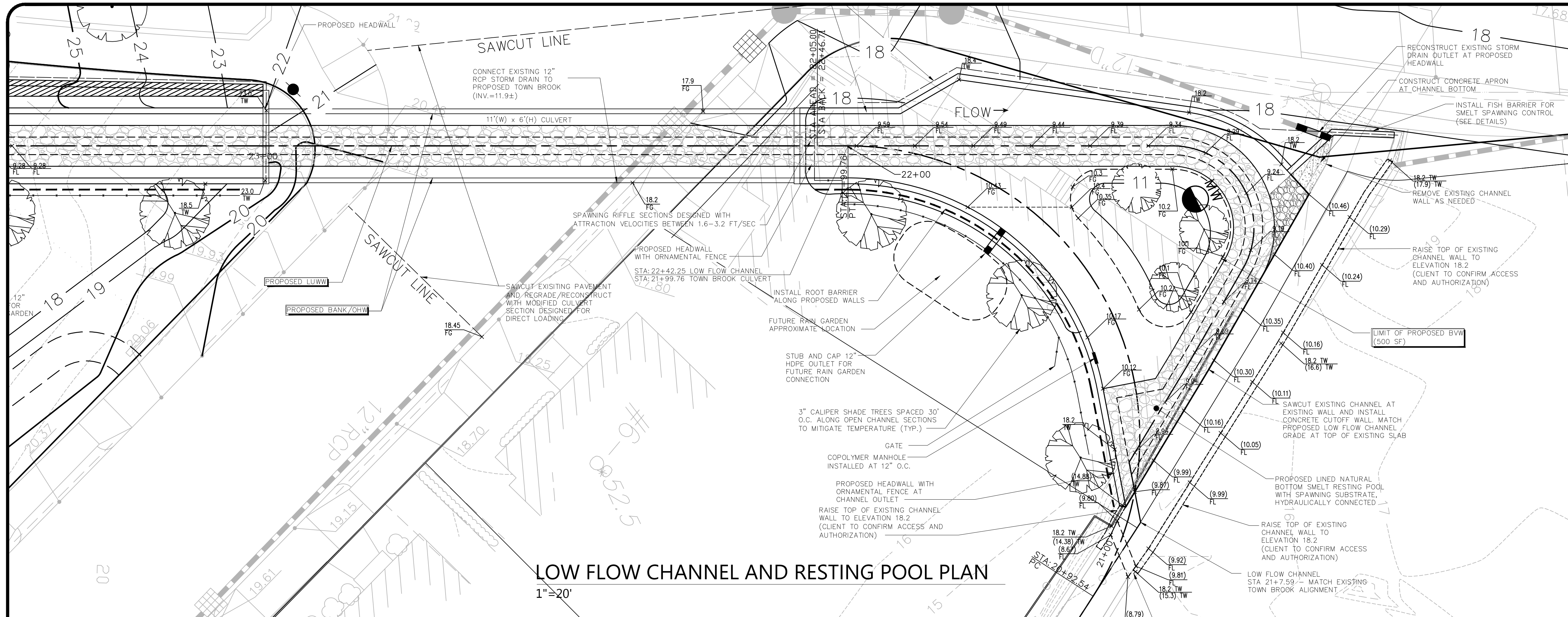
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Project #

10-006

Date

Sept. 23, 2011



Notes

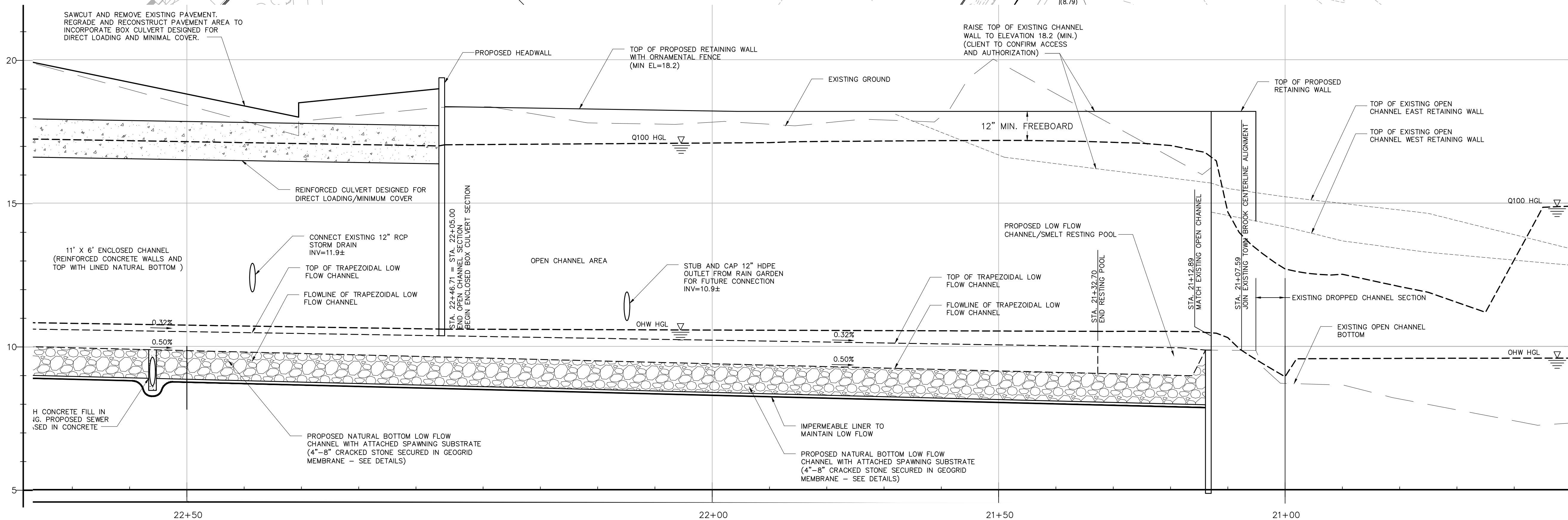
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Low Flow Channel Notes

- MAINTAIN FLOW DEPTH OF 6"-12" IN SPAWNING RIFFLES AND LOW FLOW CHANNEL SECTIONS DURING LOW/BASE FLOW.
- LOW FLOW CHANNEL SECTIONS AND RESTING POOLS SHALL HAVE 4"-8" DIAMETER CRACKED STONE SUBSTRATE SECURED TO CULVERT BOTTOM. NATURAL BOTTOM CHANNEL SECTION SHALL HAVE 4"-8" DIAMETER CRACKED STONE EMBEDDED SUFFICIENTLY TO AVOID MIGRATION OF SUBSTRATE.
- PROVIDE SHADE TREES ALONG OPEN CHANNEL SECTIONS.

LOW FLOW CHANNEL AND RESTING POOL PLAN

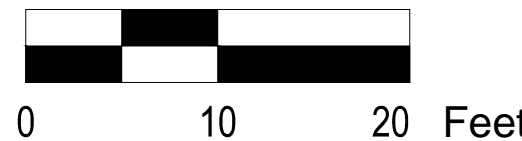
1"=20'



LOW FLOW CHANNEL AND RESTING POOL PROFILE

1"=20' H

1"=4' V



+0.80 - USGS DATUM
(1929 NGVD)
0' - PROJECT DATUM
(NAVD 1988)



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BOSTON, MASSACHUSETTS 02210
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Project Title

Quincy Center Redevelopment
Town Brook Enhancement
Project

QUINCY, MASSACHUSETTS

Drawing Title

Proposed Town Brook
Plan and Profile
Low Flow Channel

Drawing #

C-4.3

Sheet

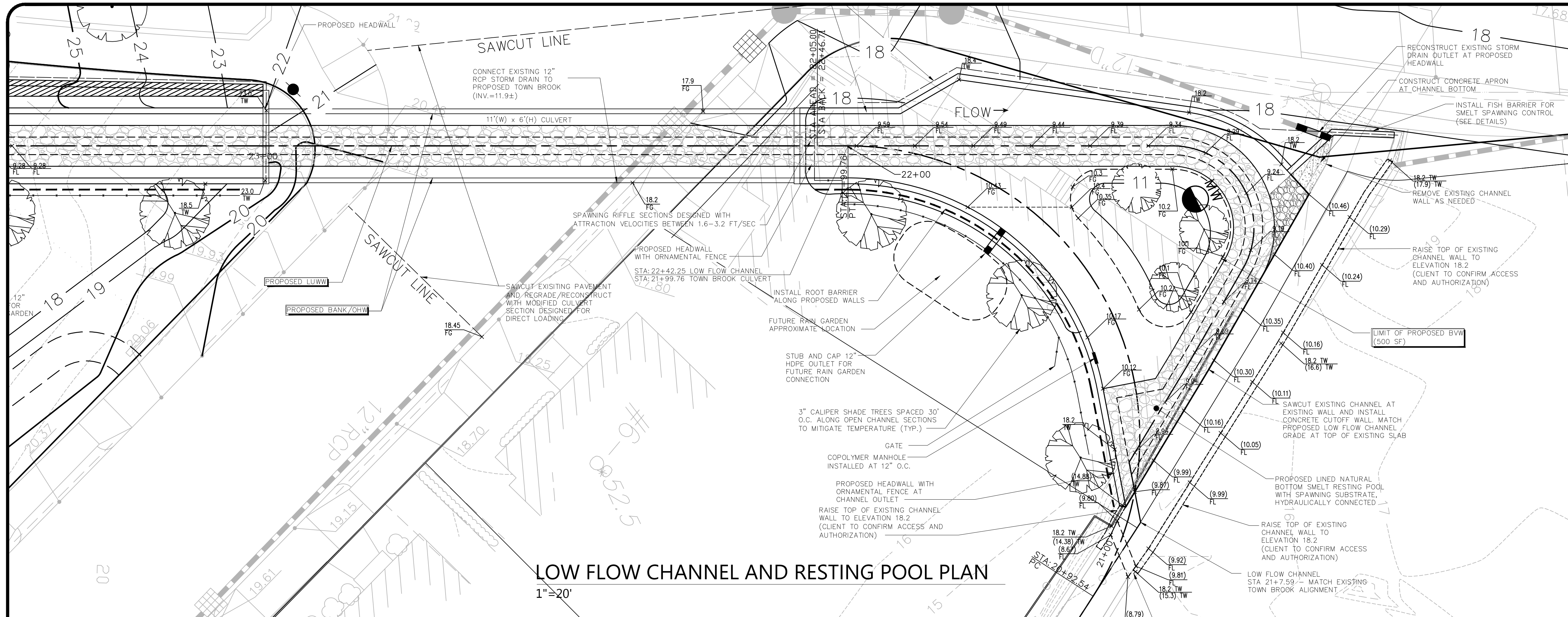
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Project #

10-006

Date

Sept. 23, 2011



Notes

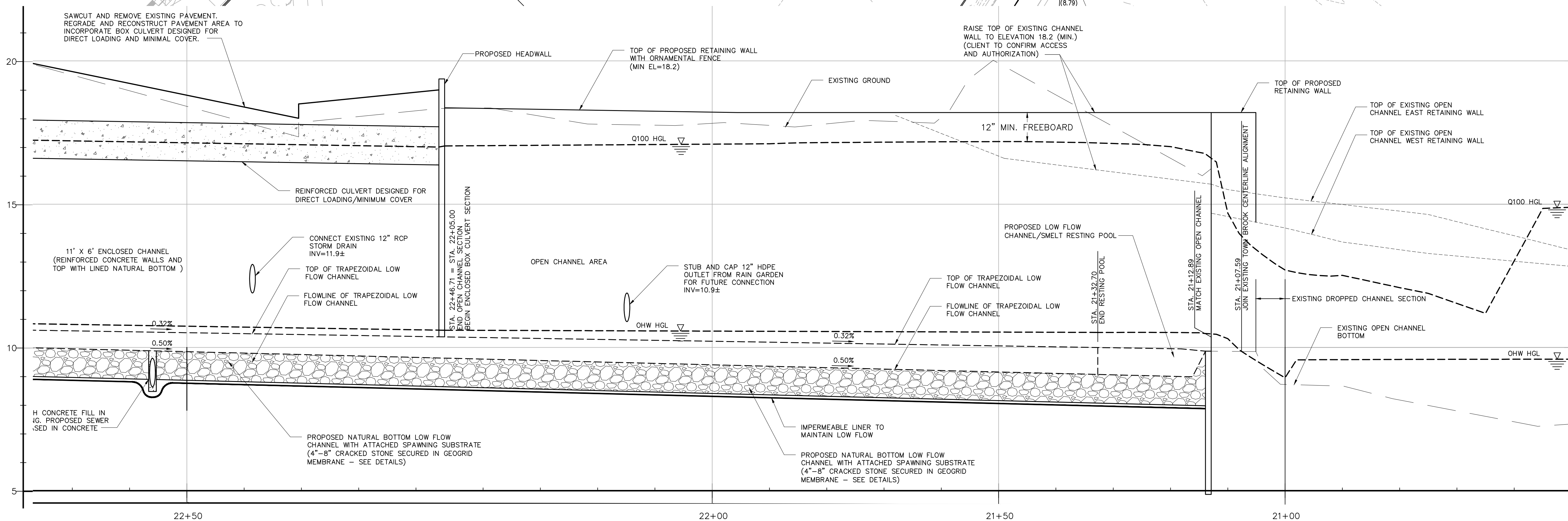
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LOW FLOW CHANNEL AND RESTING POOL PLAN

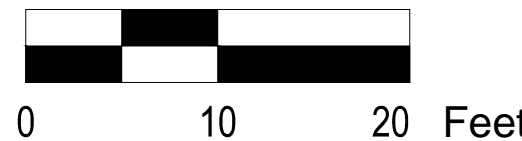
1"=20'



LOW FLOW CHANNEL AND RESTING POOL PROFILE

1"=20' H

1"=4' V



+0.80 - USGS DATUM
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Project Title

Quincy Center Redevelopment
Town Brook Enhancement
Project

QUINCY, MASSACHUSETTS

Drawing Title

Proposed Town Brook
Plan and Profile
Low Flow Channel

Drawing #

C-4.3

Sheet

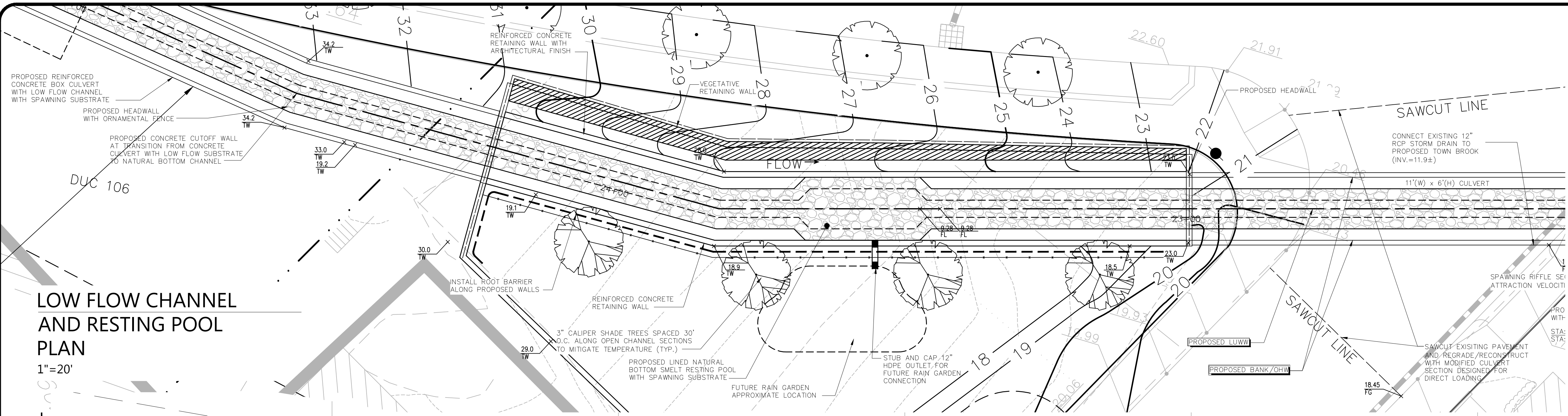
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Project #

10-006

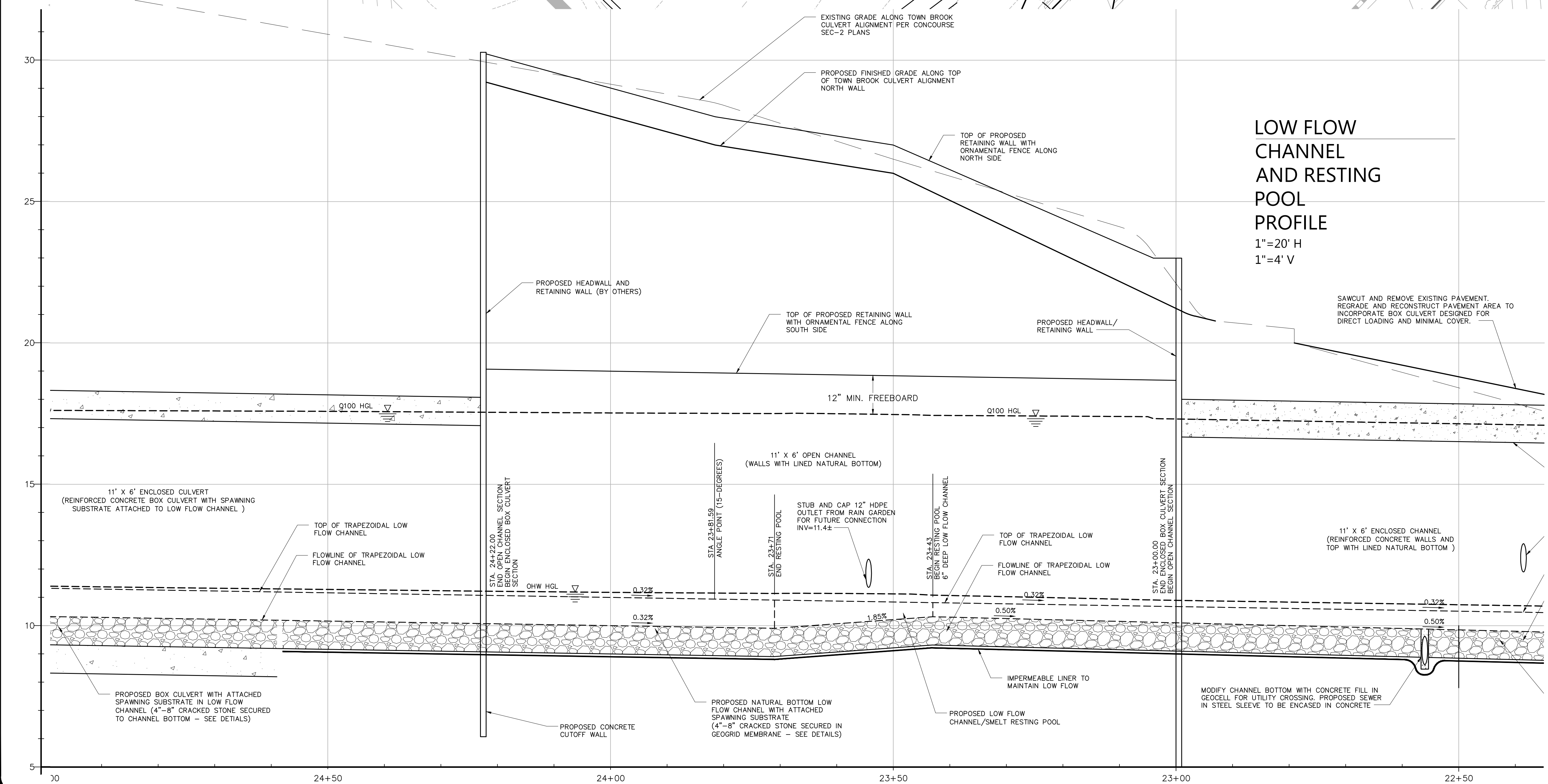
Date

Sept. 23, 2011



**LOW FLOW CHANNEL
AND RESTING POOL
PLAN**

1"=20'



**LOW FLOW CHANNEL
AND RESTING
POOL
PROFILE**

1"=20' H

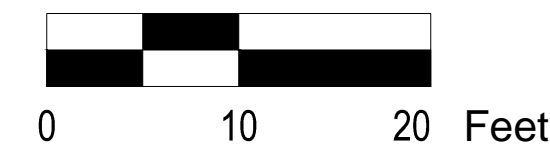
1"=4' V

Notes

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+0.80' - USGS DATUM
(1929 NGVD)
0.80'
0' - PROJECT DATUM
(NAVD 1988)



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Project Title

Quincy Center Redevelopment
Town Brook Enhancement
Project

QUINCY, MASSACHUSETTS

Drawing Title

Proposed Town Brook
Plan and Profile
Low Flow Channel

Drawing #

C-4.4

Sheet

of

13 26

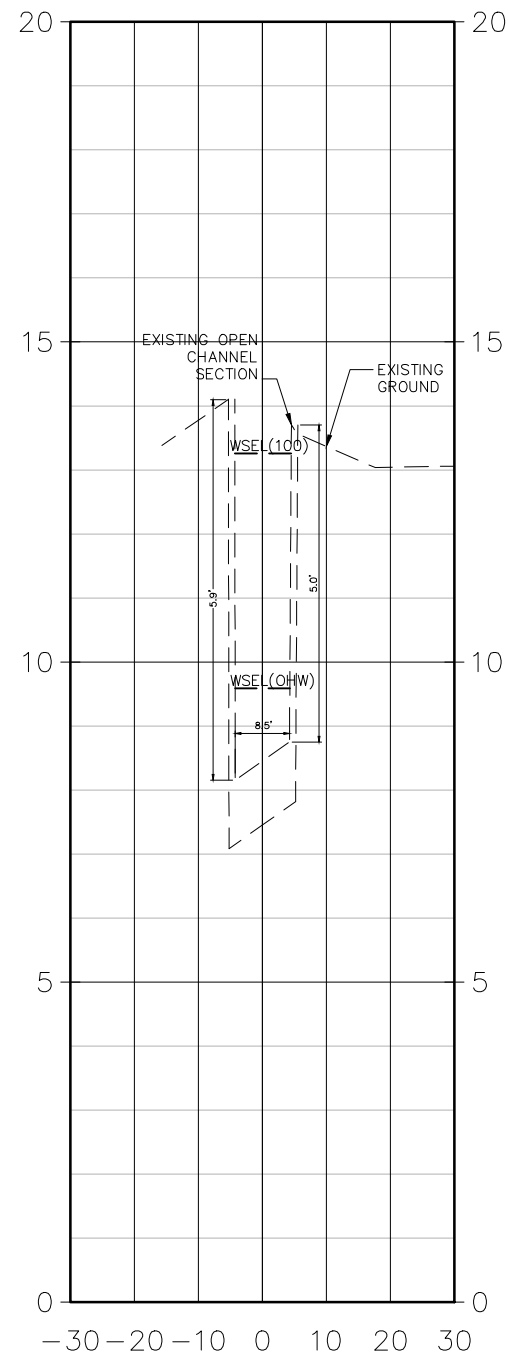
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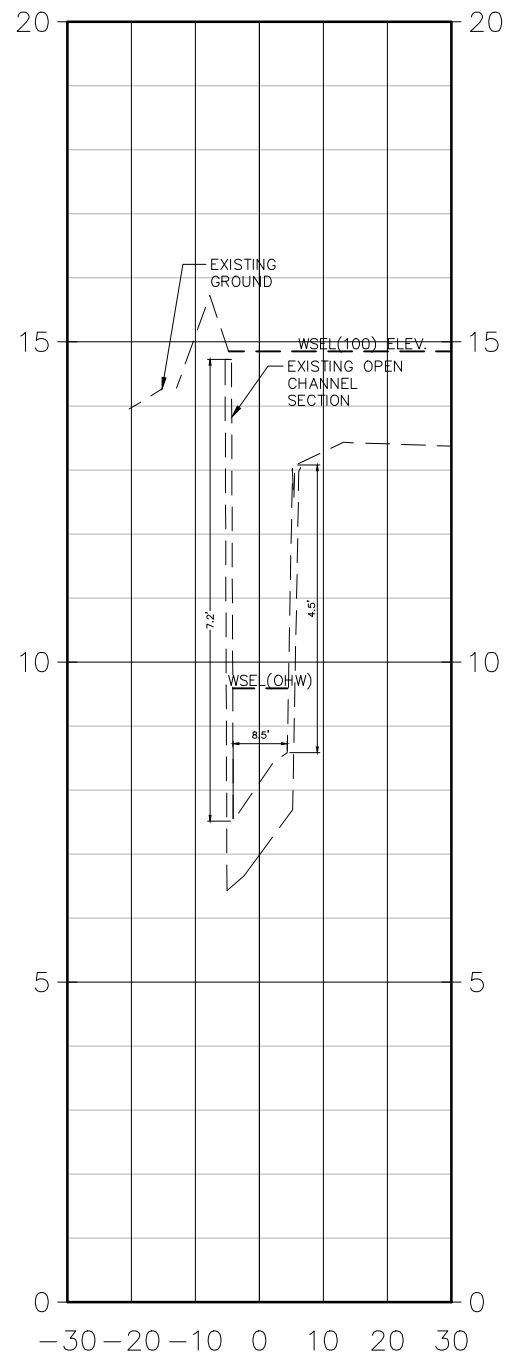
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Sept. 23, 2011

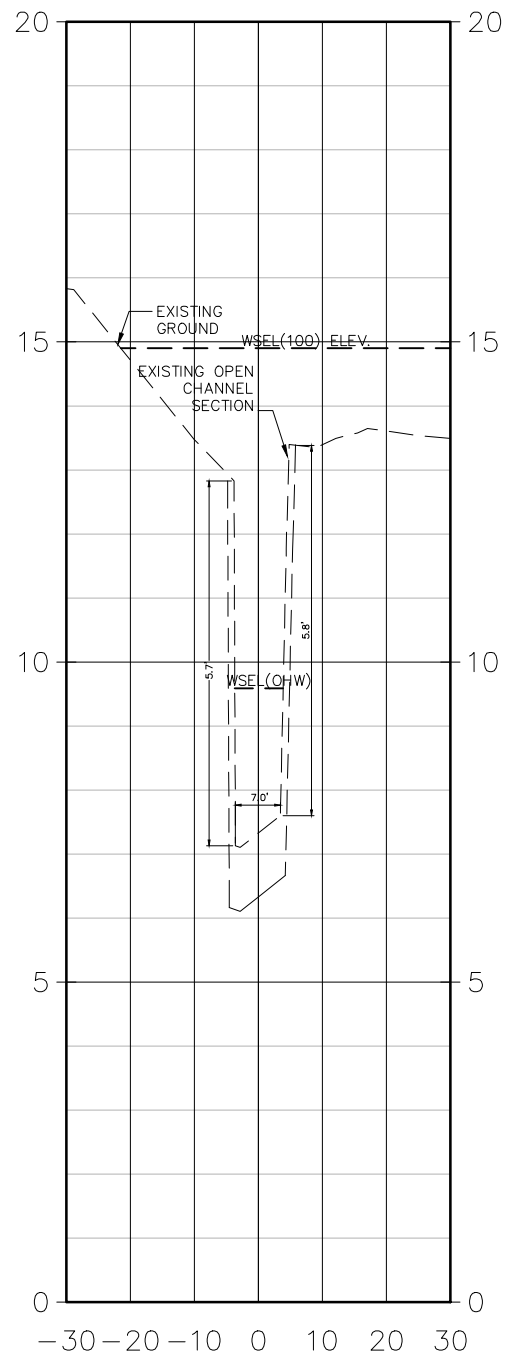
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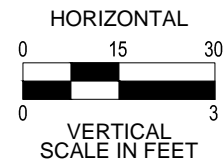
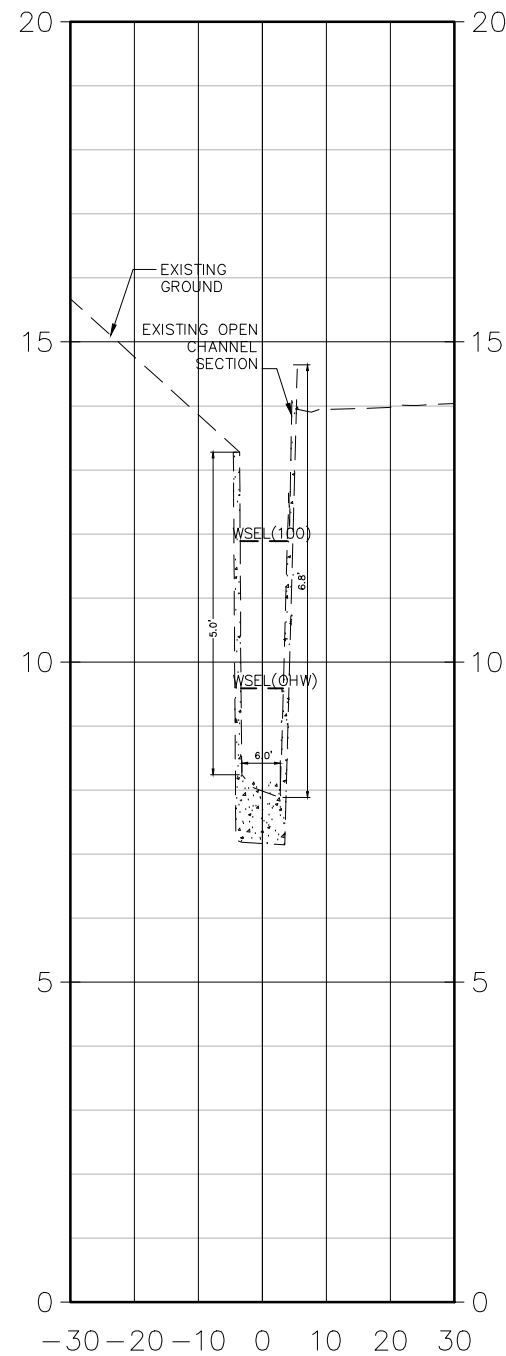
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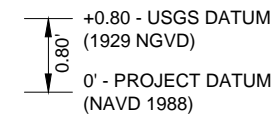
10+50



10+75



*Ordinary High Water Elevation (OHW) is equal to Mean High Water Elevation



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Project Title

Quincy Center Redevelopment
Town Brook Enhancement
Project

QUINCY, MASSACHUSETTS

Drawing Title

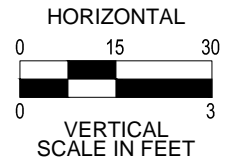
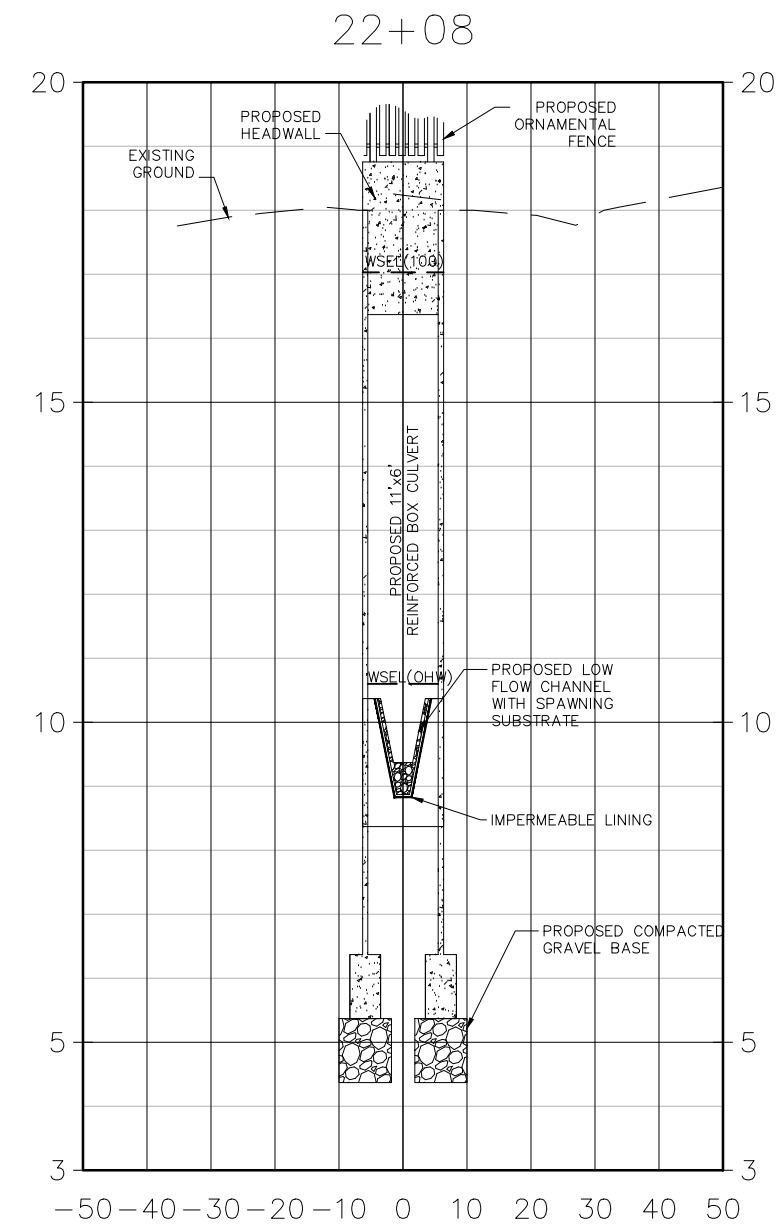
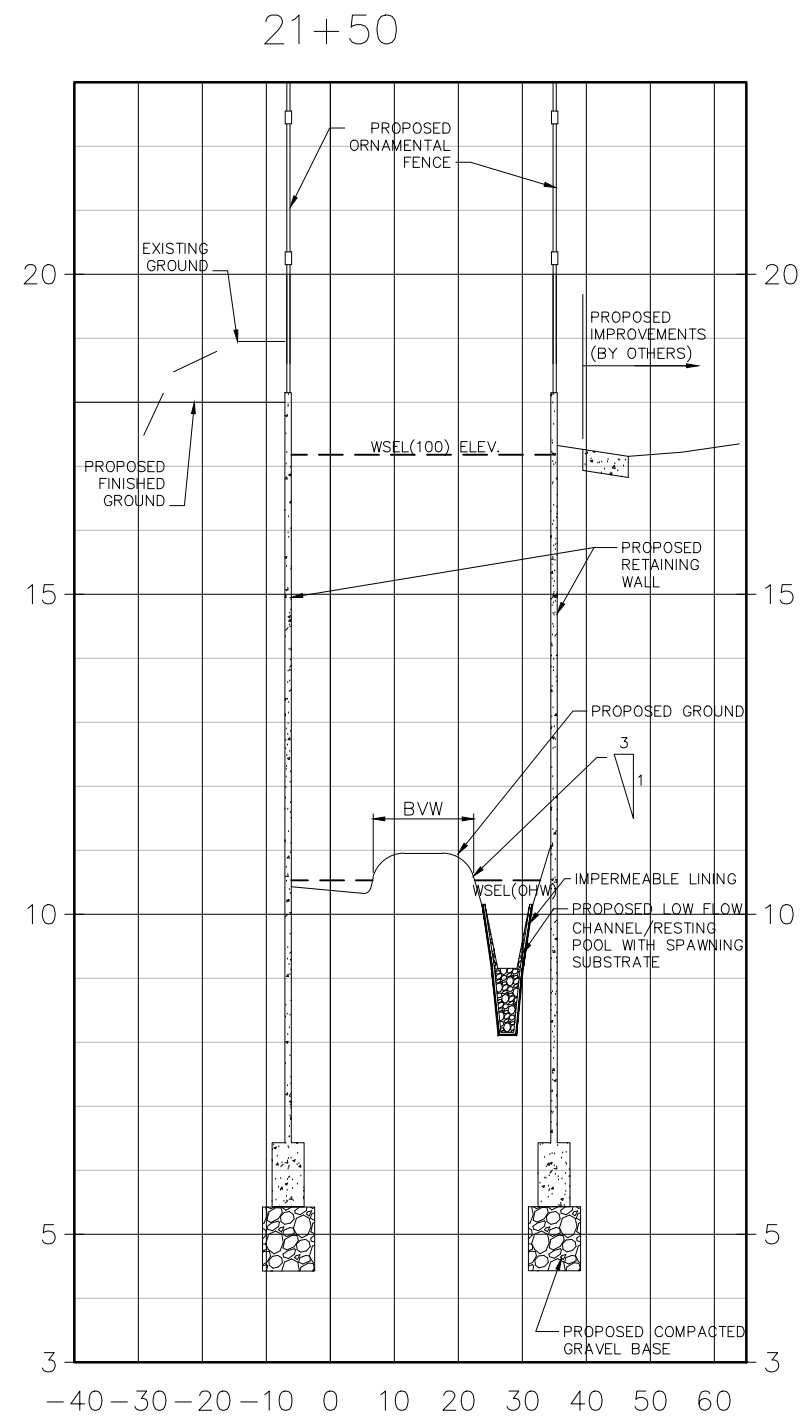
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Cross Sections

Drawing #
C-5.1

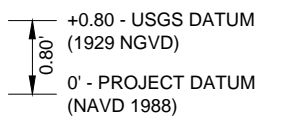
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14 26

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10-006

Date
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Project Title
 Quincy Center Redevelopment
 Town Brook Enhancement
 Project
 QUINCY, MASSACHUSETTS

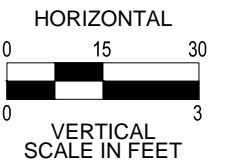
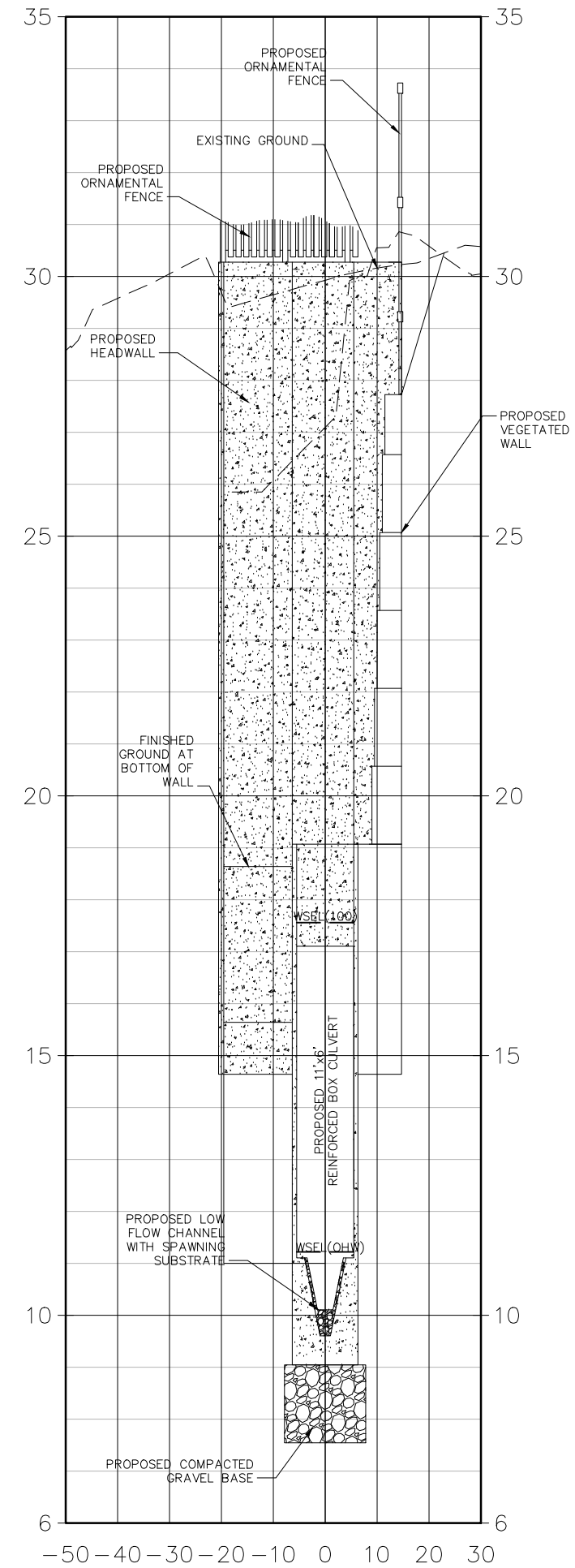
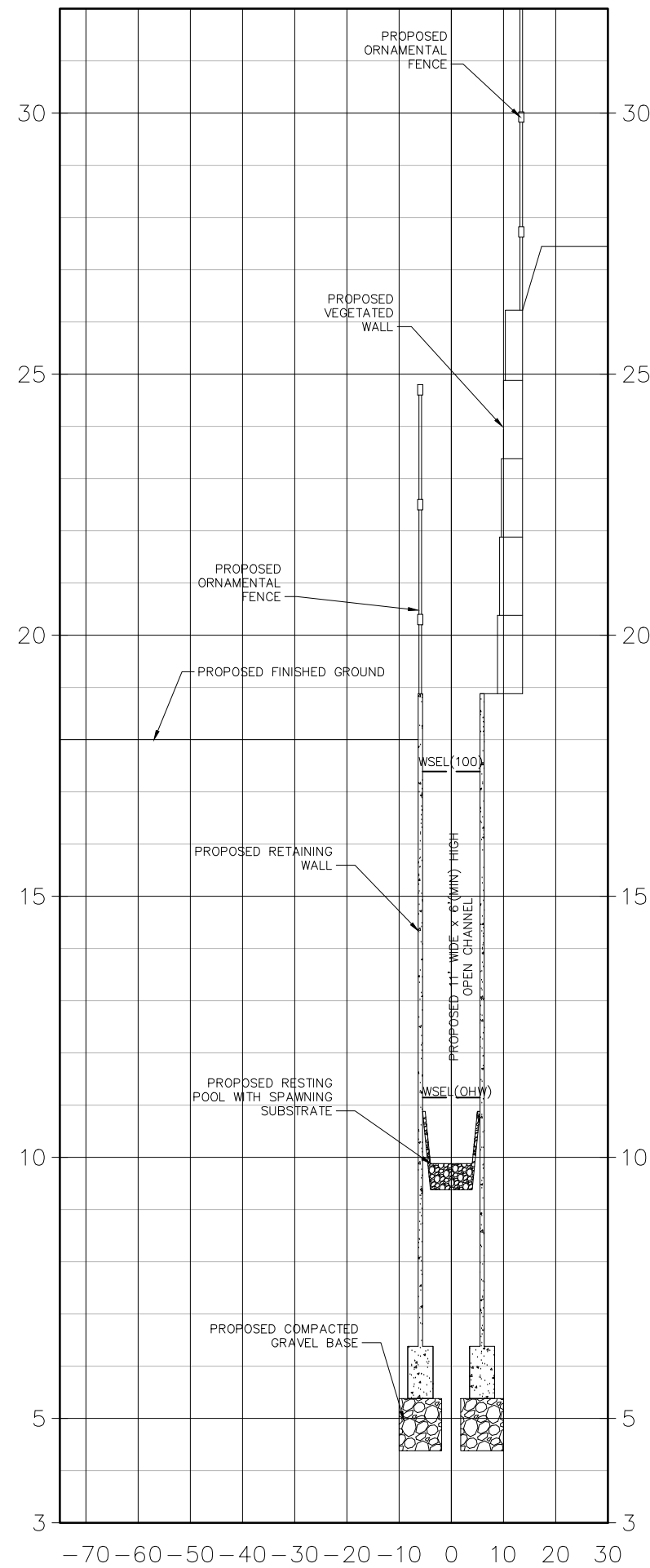
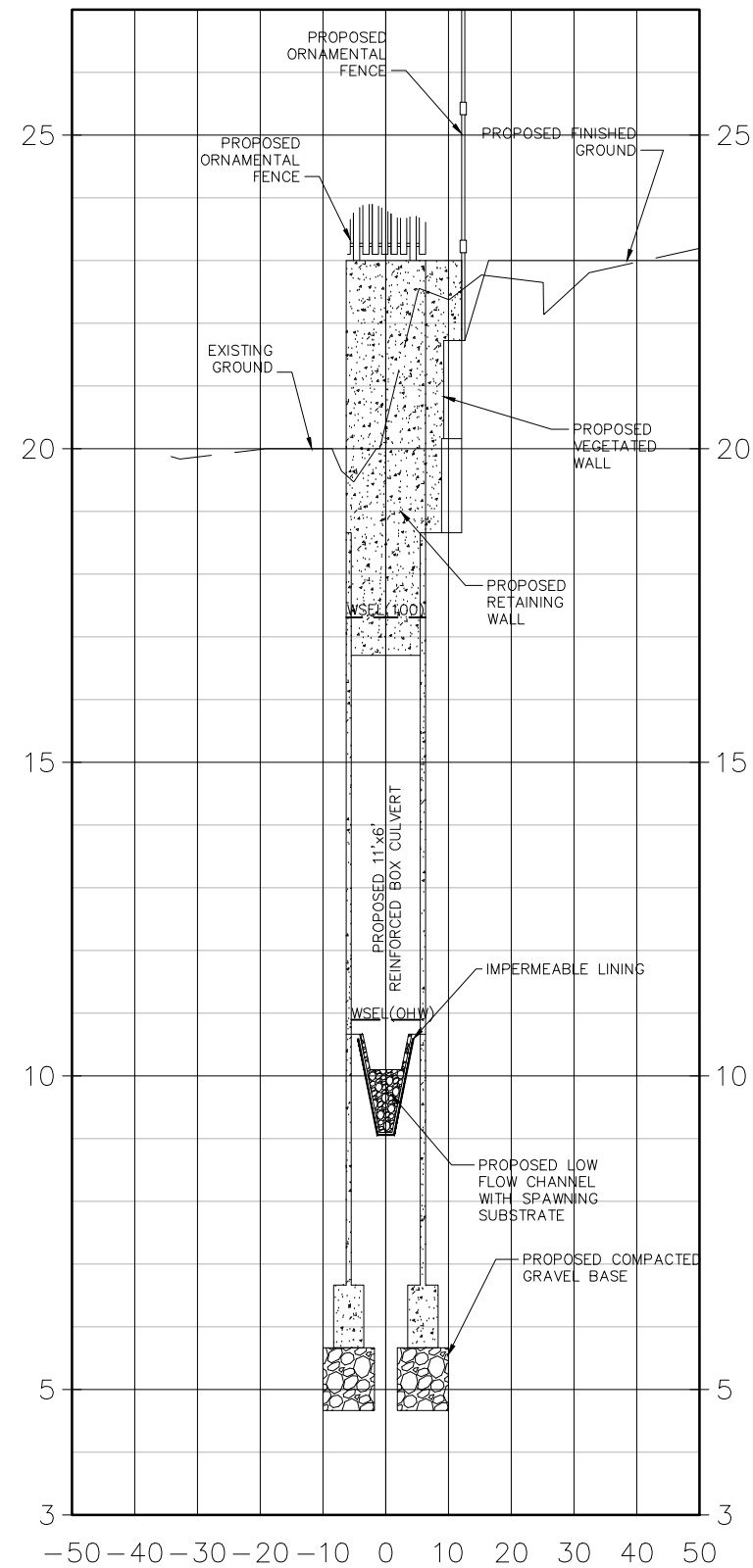
Drawing Title
 HEC-RAS
 Cross Sections

Drawing # C-5.2	Sheet 15 of 26
Project # 10-006	Date Sept. 23, 2011

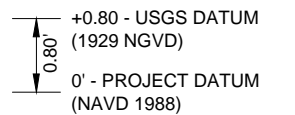
23+63.35

24+22

23+00



*Ordinary High Water Elevation (OHW) is equal to Mean High Water Elevation

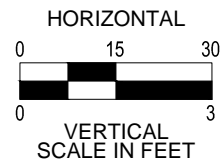
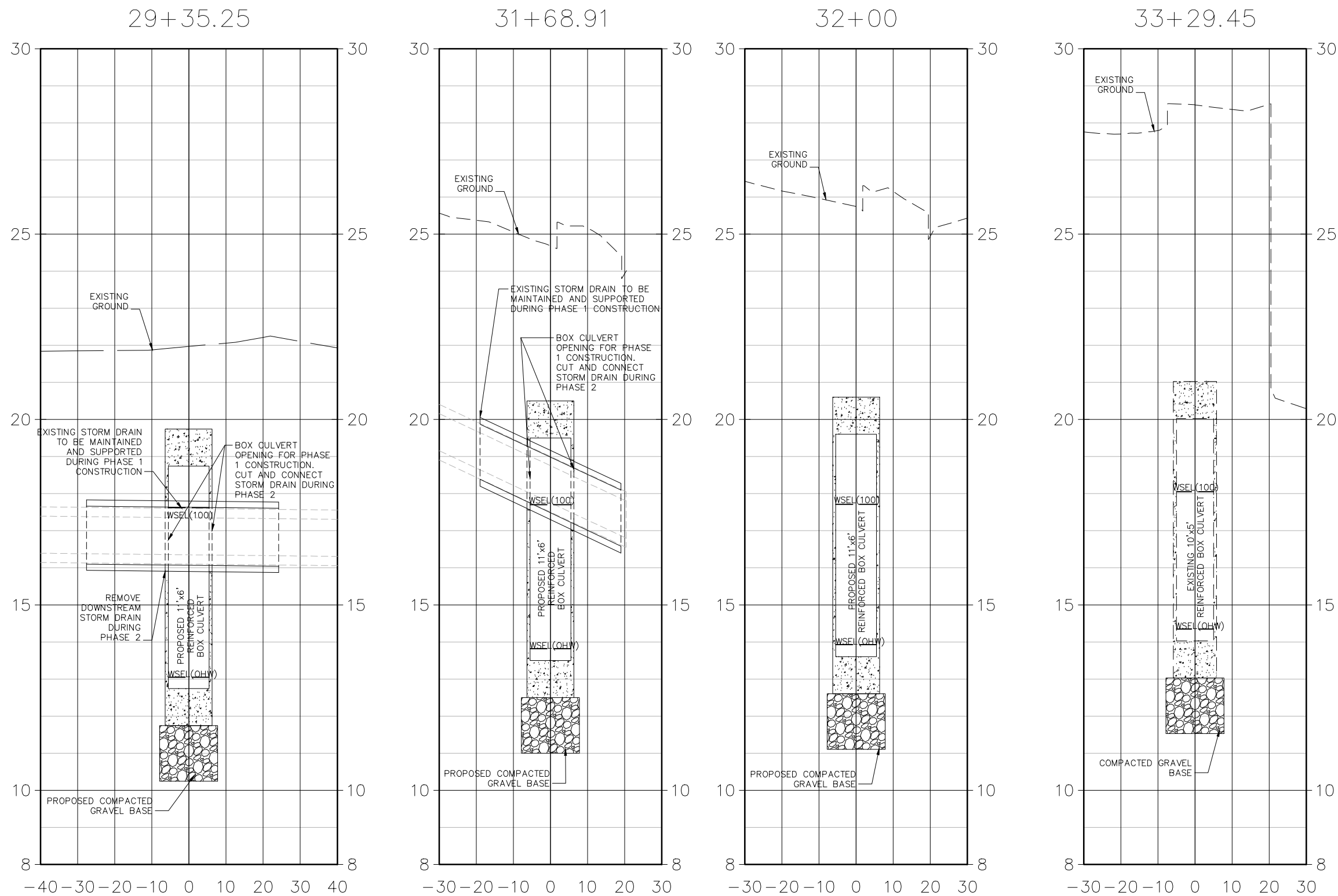


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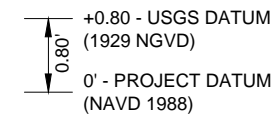
Project Title
Quincy Center Redevelopment
Town Brook Enhancement
Project
QUINCY, MASSACHUSETTS

Drawing Title
HEC-RAS
Cross Sections

Drawing # C-5.3	Sheet 16	of 26
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*Ordinary High Water Elevation (OHW)
is equal to Mean High Water Elevation



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Town Brook Enhancement
Project

QUINCY, MASSACHUSETTS

Drawing Title

HEC-RAS
Cross Sections

Drawing #

C-5.4

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17 26

Project #

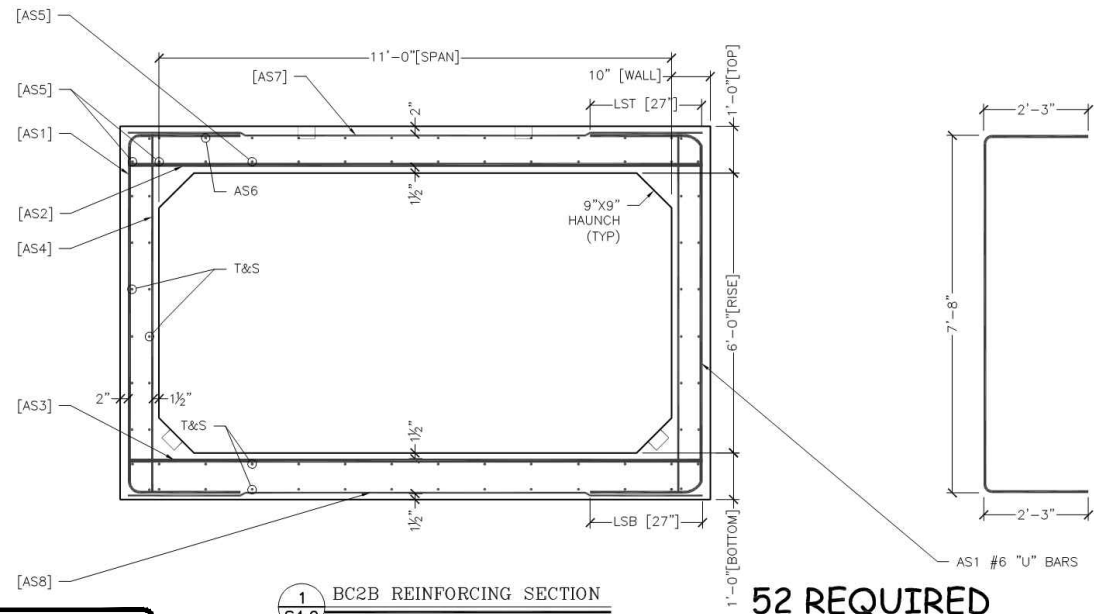
10-006

Date

Sept. 23, 2011

Box Culvert Typical Section Details

N.T.S.



1 BC2B REINFORCING SECTION
S4.0 1/2" = 1'-0"

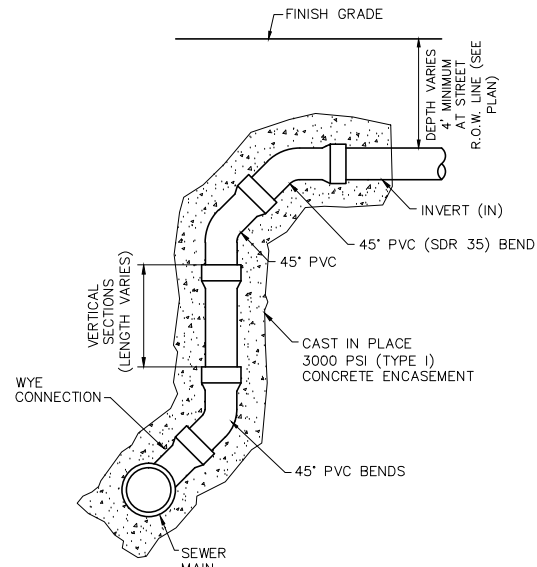
52 REQUIRED
EACH SECTION WEIGHS:
45,370# (10.80CY)



Sewer Service Chimney

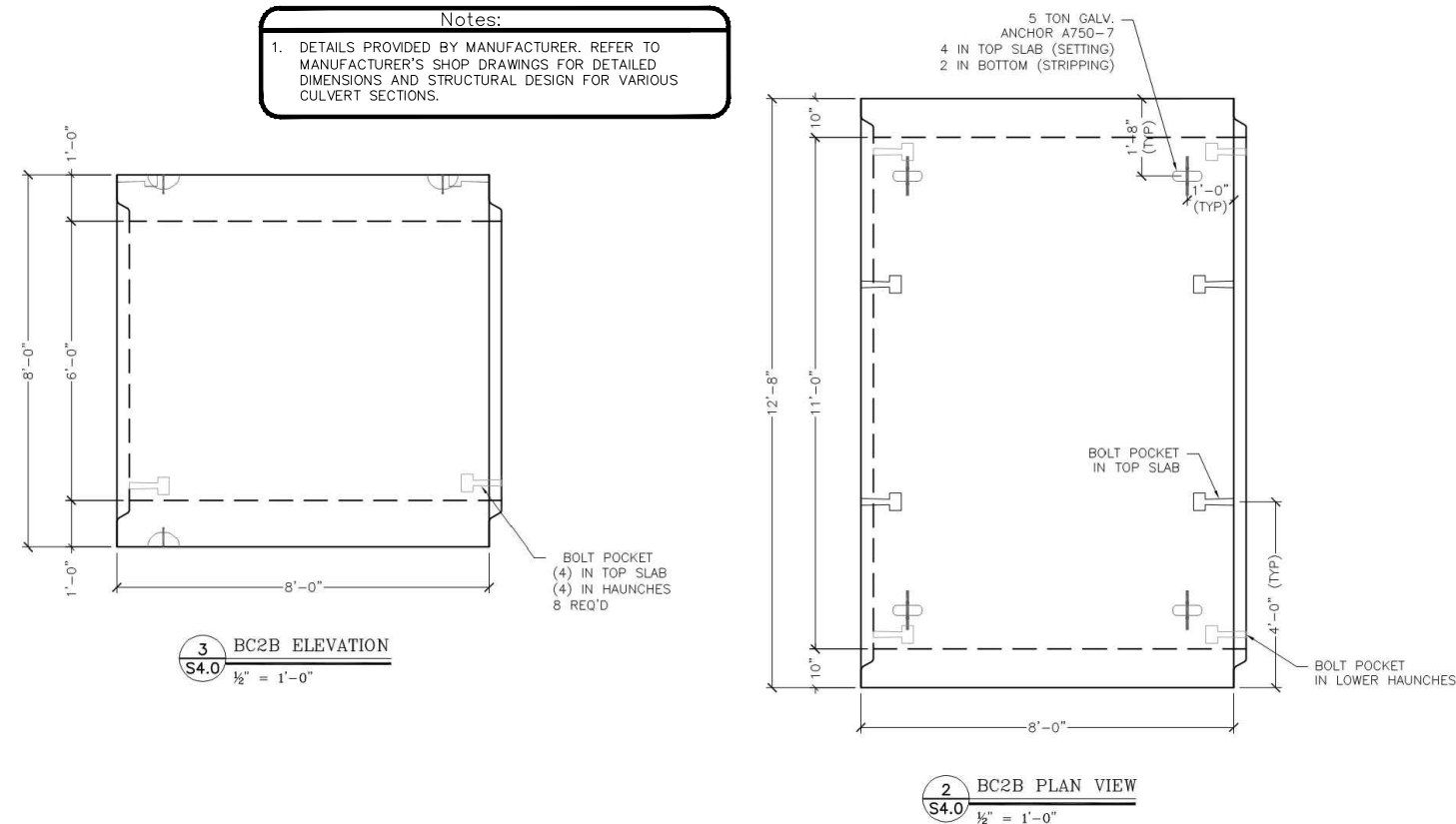
11/10

N.T.S.



Box Culvert Typical Section Details

N.T.S.



3 BC2B ELEVATION
S4.0 1/2" = 1'-0"

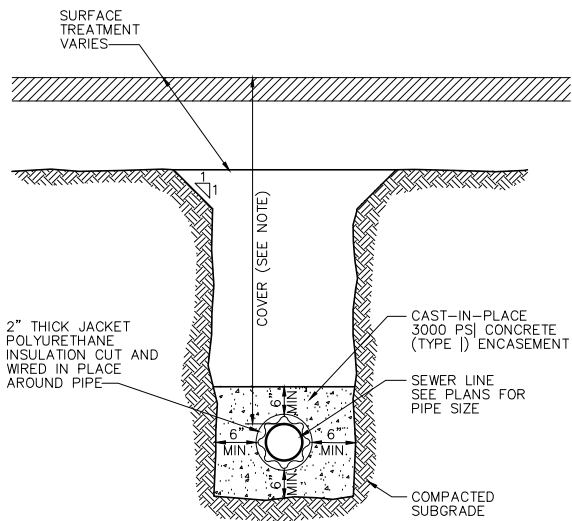
2 BC2B PLAN VIEW
S4.0 1/2" = 1'-0"

Notes:
1. DETAILS PROVIDED BY MANUFACTURER. REFER TO MANUFACTURER'S SHOP DRAWINGS FOR DETAILED DIMENSIONS AND STRUCTURAL DESIGN FOR VARIOUS CULVERT SECTIONS.

Utility Trench – Pipe Insulation

11/10

N.T.S.



Note:
SEWER LINE SHALL BE INSULATED WHEN COVER IS LESS THAN FOUR (4) FEET UNLESS INDICATED OTHERWISE ON PLANS. PROVIDE CONCRETE ENCASEMENT IN VEHICULAR AREAS WHEN COVER OVER PIPE INSULATION IS LESS THAN THREE (3) FEET.

+0.80 - USGS DATUM
(1929 NGVD)
0.80'
0' - PROJECT DATUM
(NAVD 1988)



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Quincy Center Redevelopment
Town Brook Enhancement
Project

QUINCY, MASSACHUSETTS

Drawing Title

Construction Details

Drawing #

C-6.2

Sheet

of
19 26

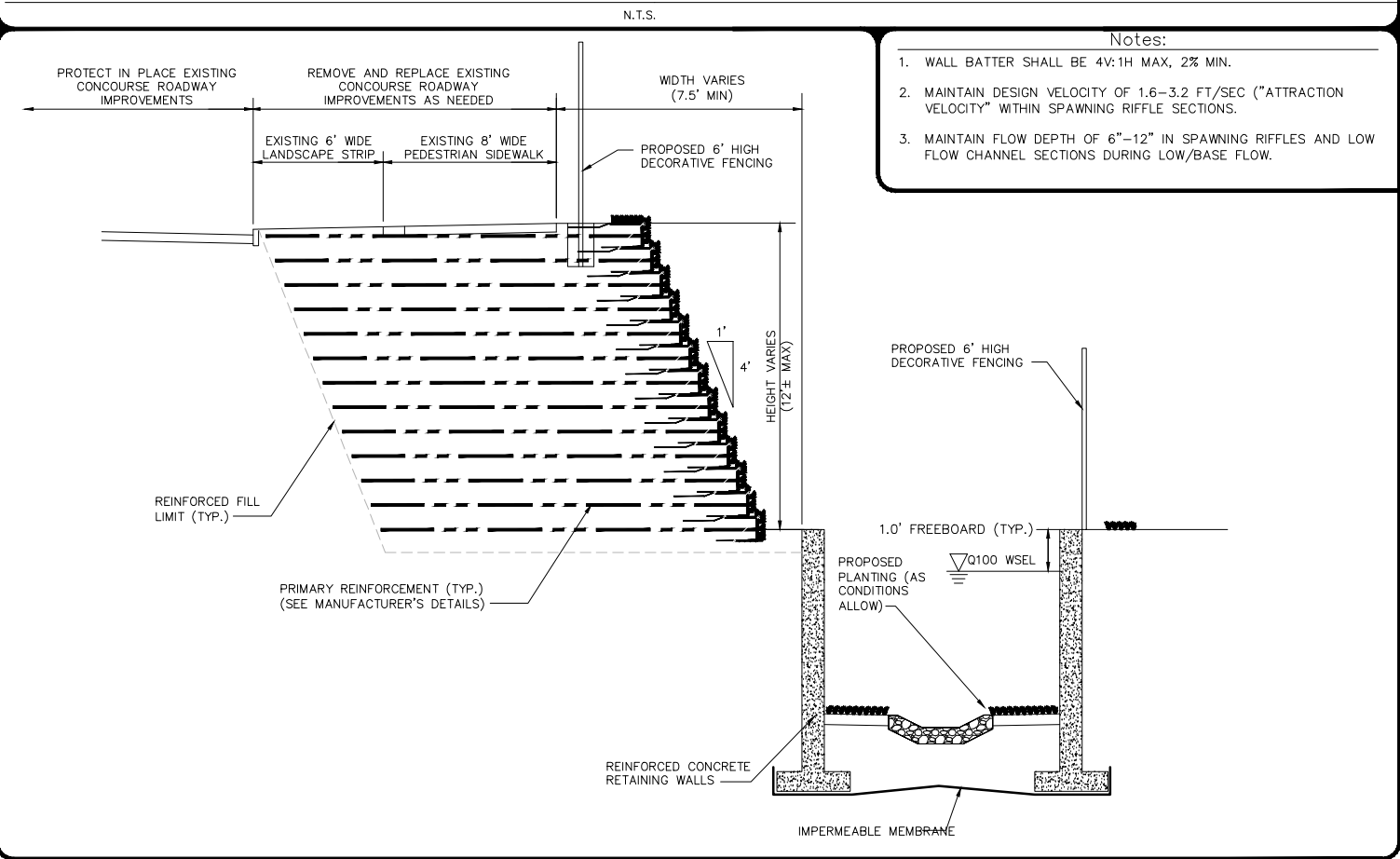
Project #

10-006

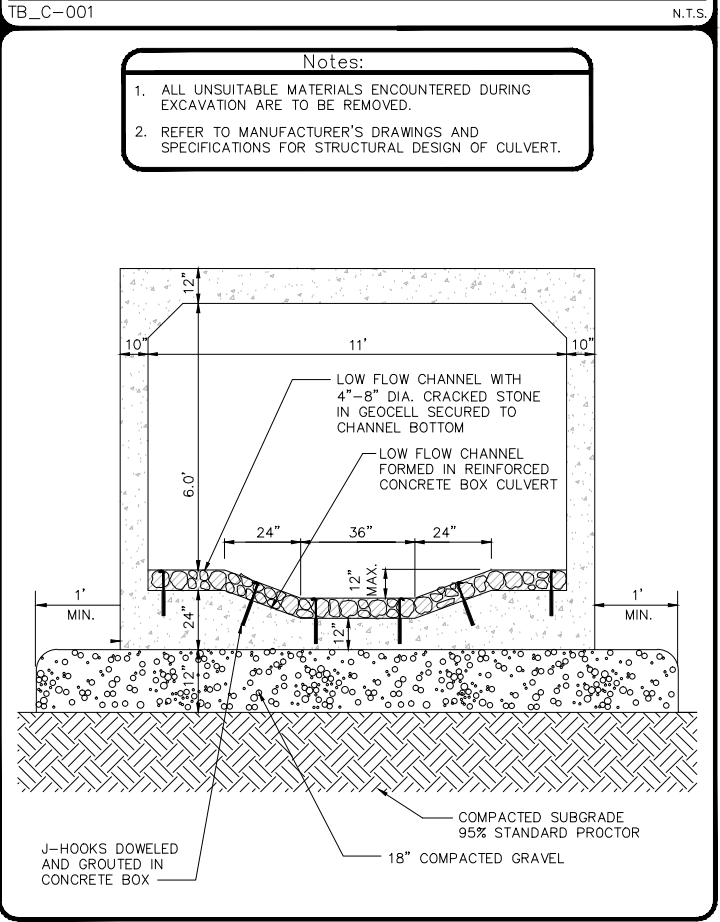
Date

Sept. 23, 2011

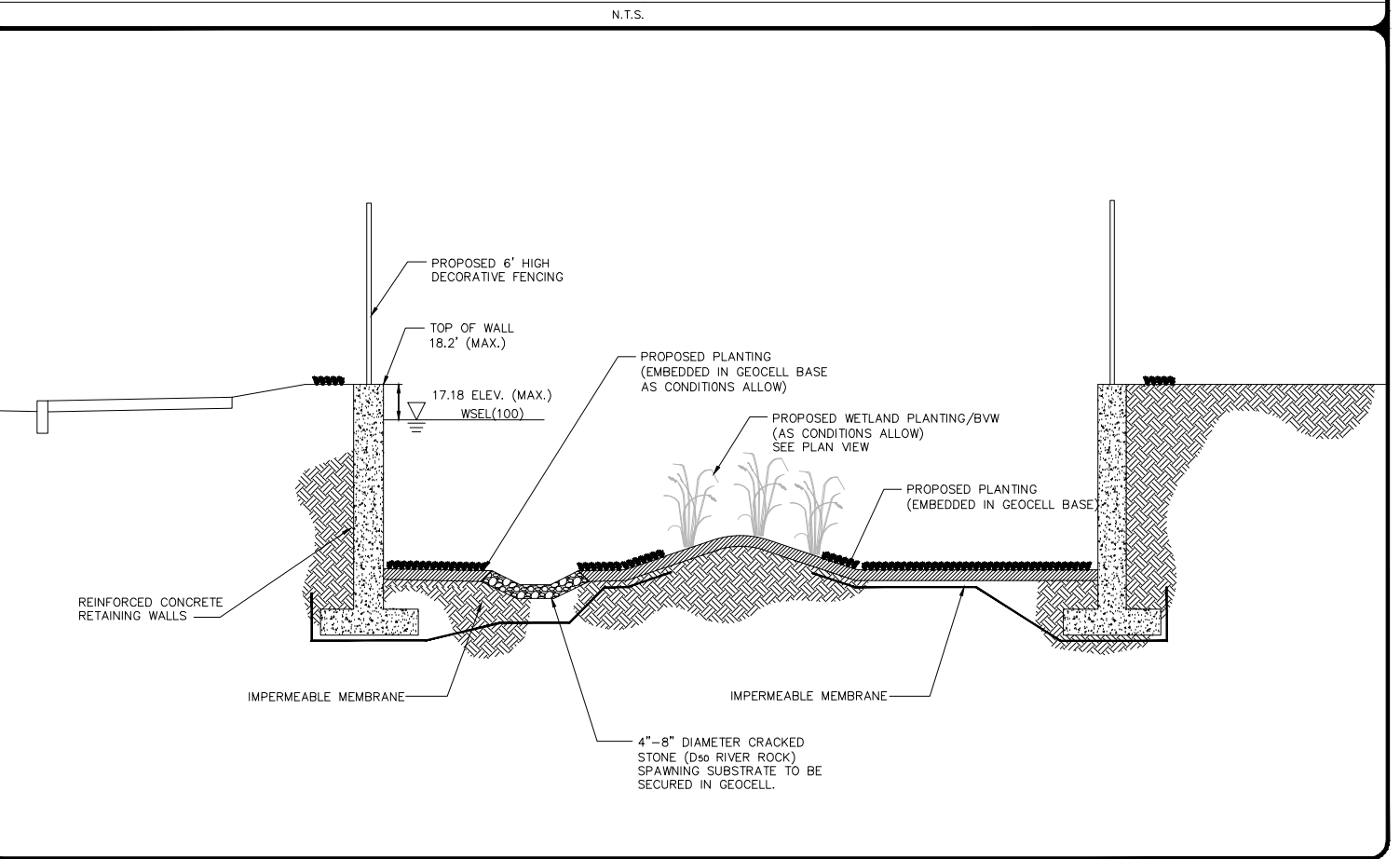
Typical Upstream Open Channel Section with Vegetated Wall



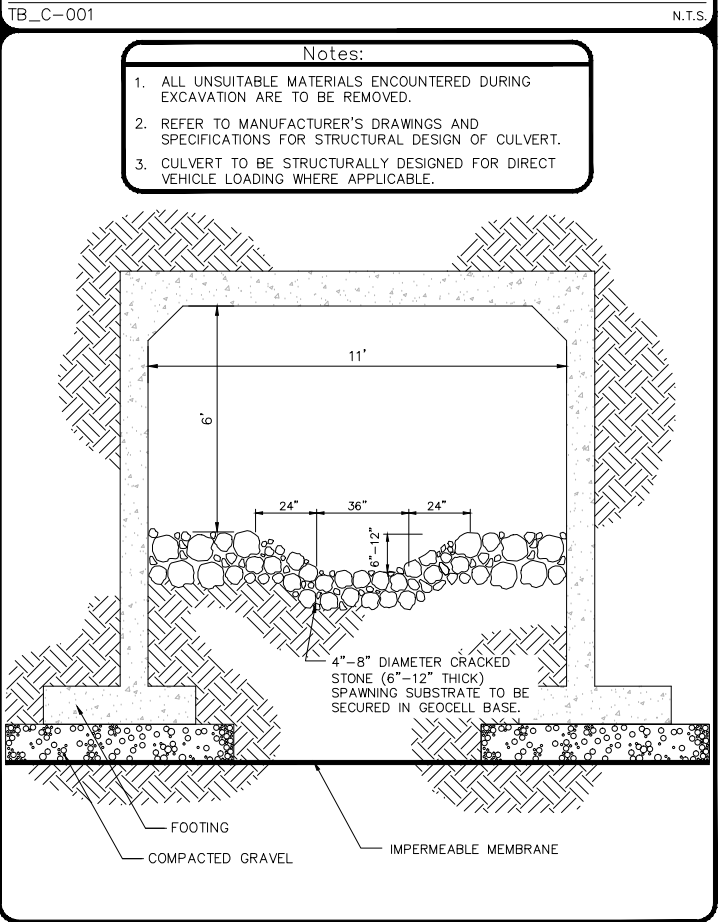
Typical Phase 2A Culvert Cross Section



Typical Section - Channel Open Area



Natural Bottom Box Culvert Cross Section



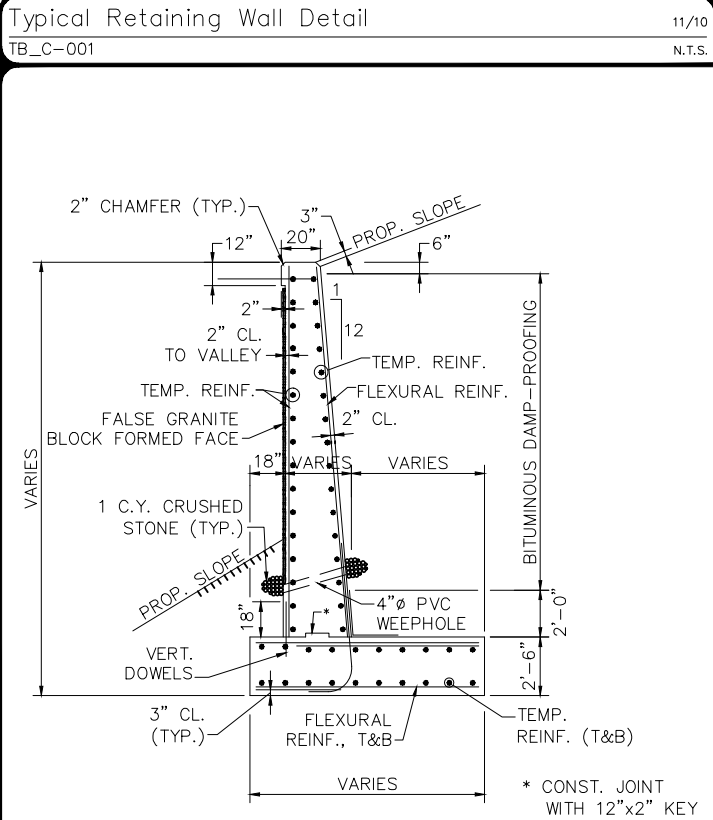
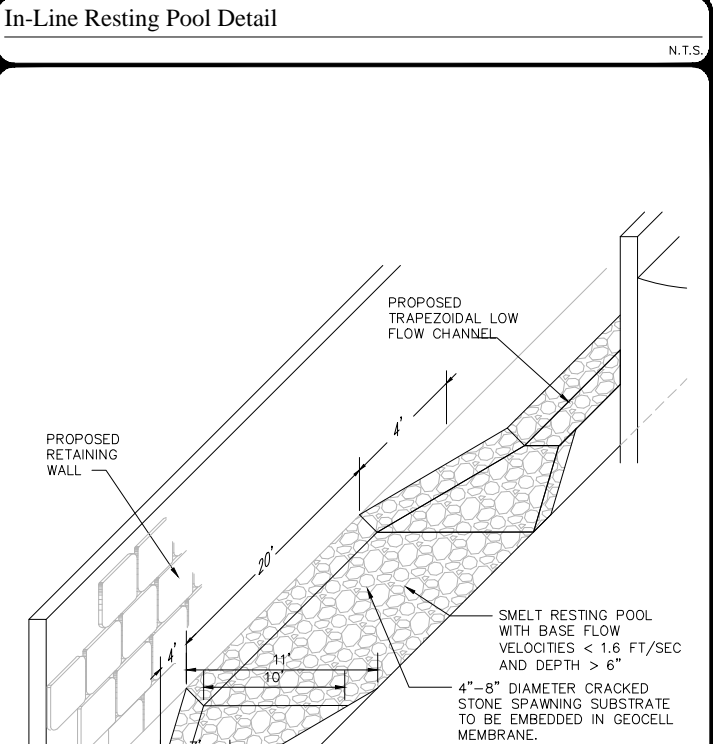
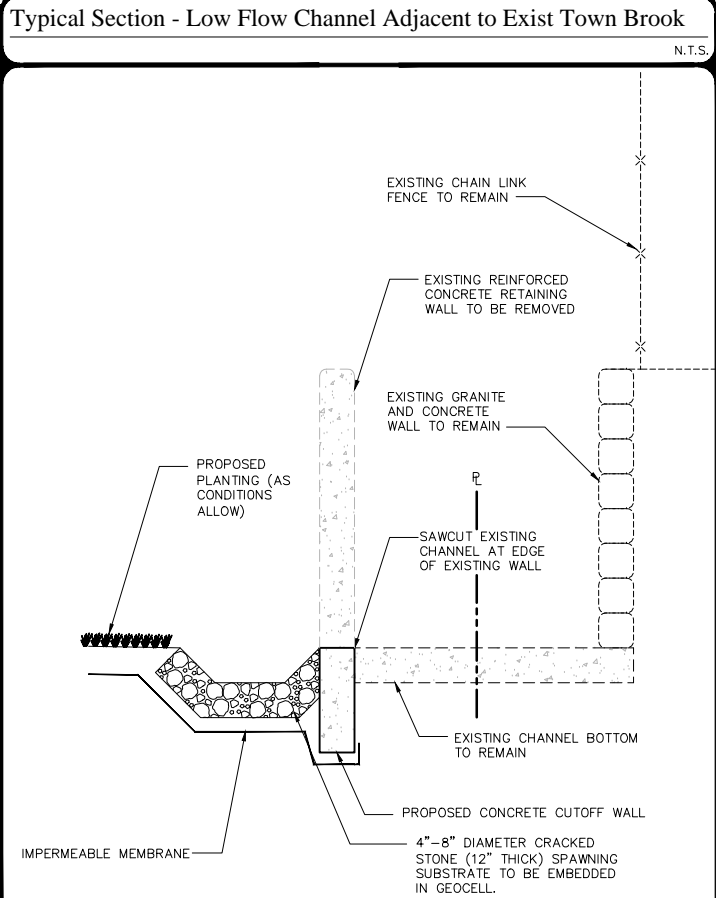
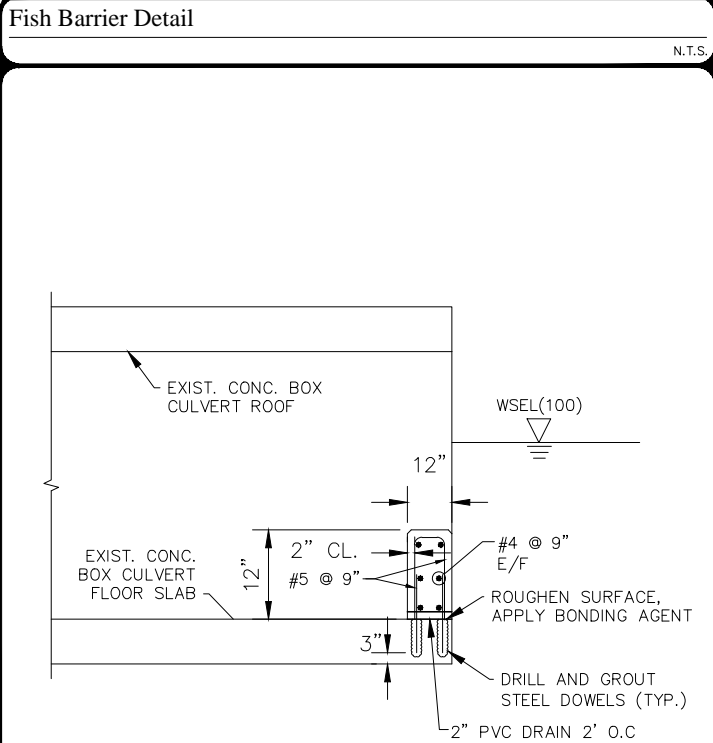
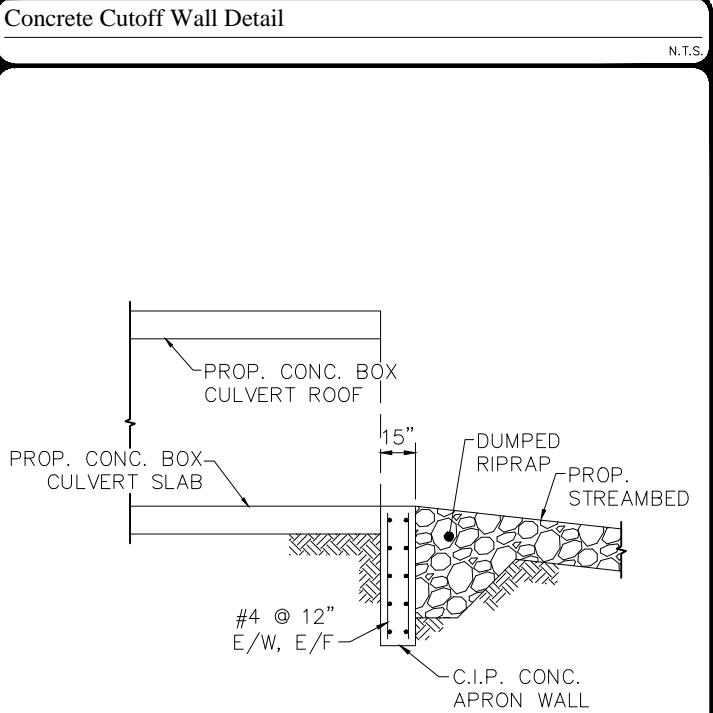
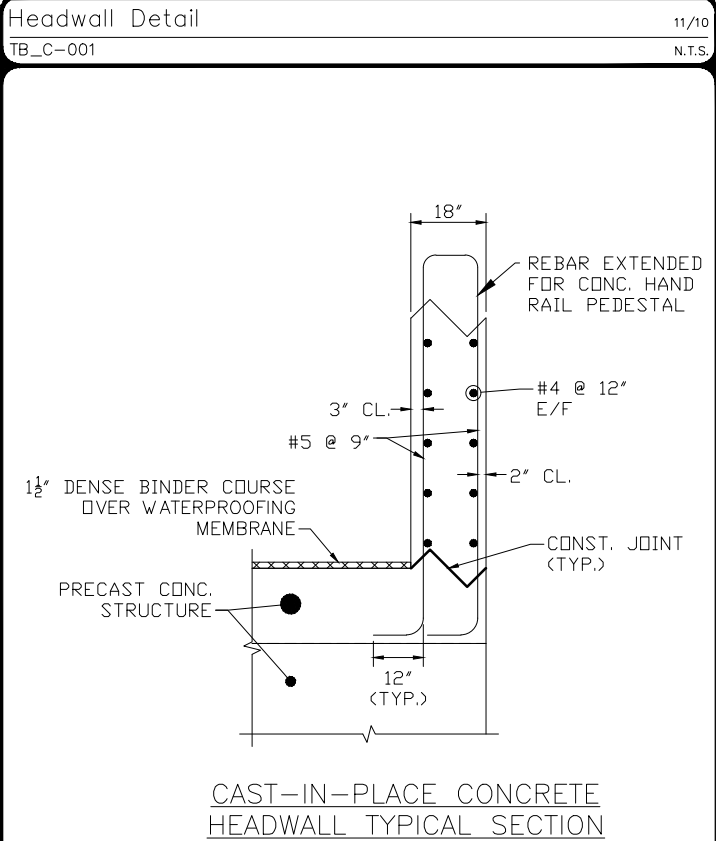
+0.80 - USGS DATUM
(1929 NGVD)
0.80'
0' - PROJECT DATUM
(NAVD 1988)



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+0.80 - USGS DATUM (1929 NGVD)

0.80'

0' - PROJECT DATUM (NAVD 1988)



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Construction Details

Drawing #
C-6.4

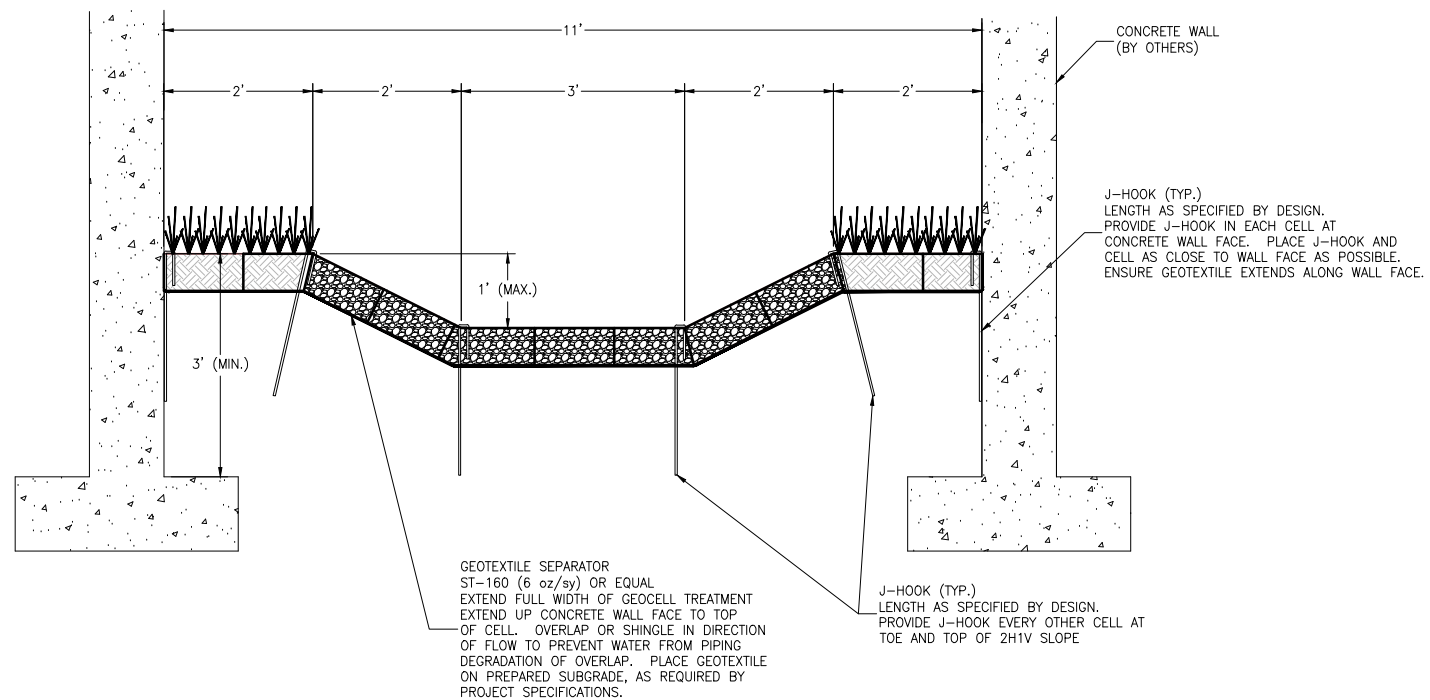
Sheet of
21 26

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Typical Strataweb Details - Geocell Membrane Reinforcing

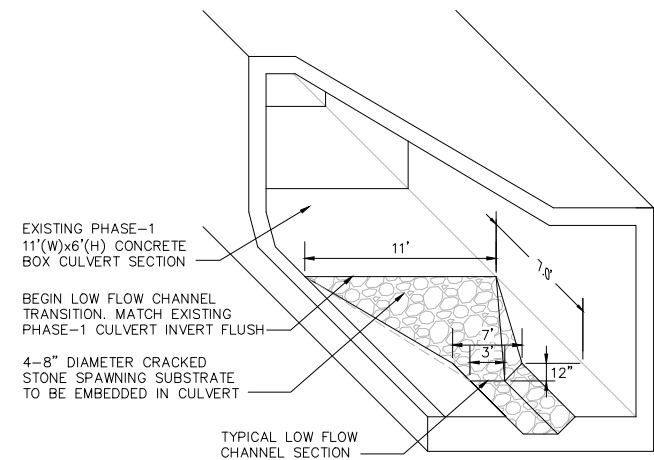
N.T.S.



PORTIONS OF DETAILS PROVIDED BY MANUFACTURER

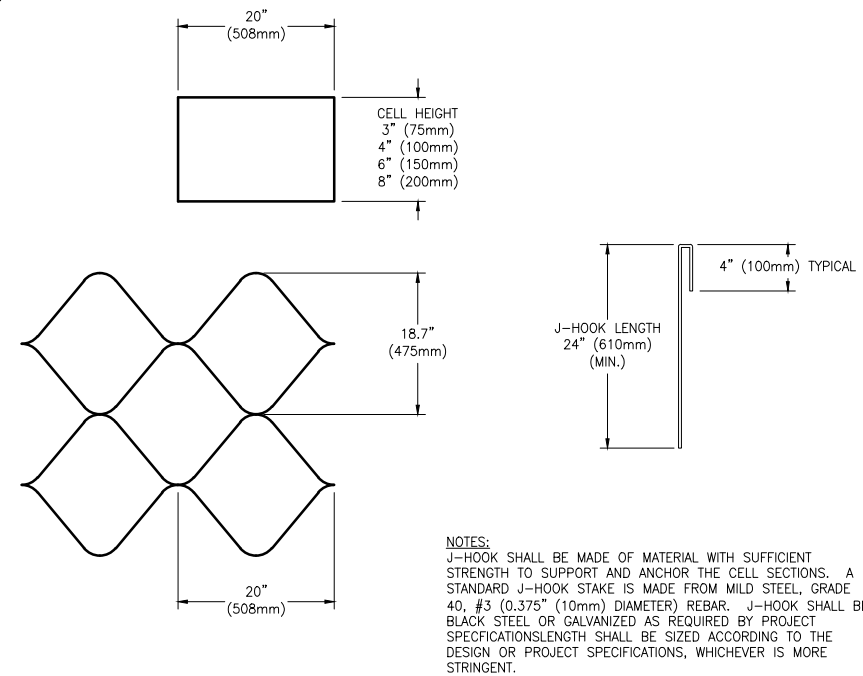
Low Flow Channel Transition Detail

N.T.S.



Typical Strataweb Details

N.T.S.



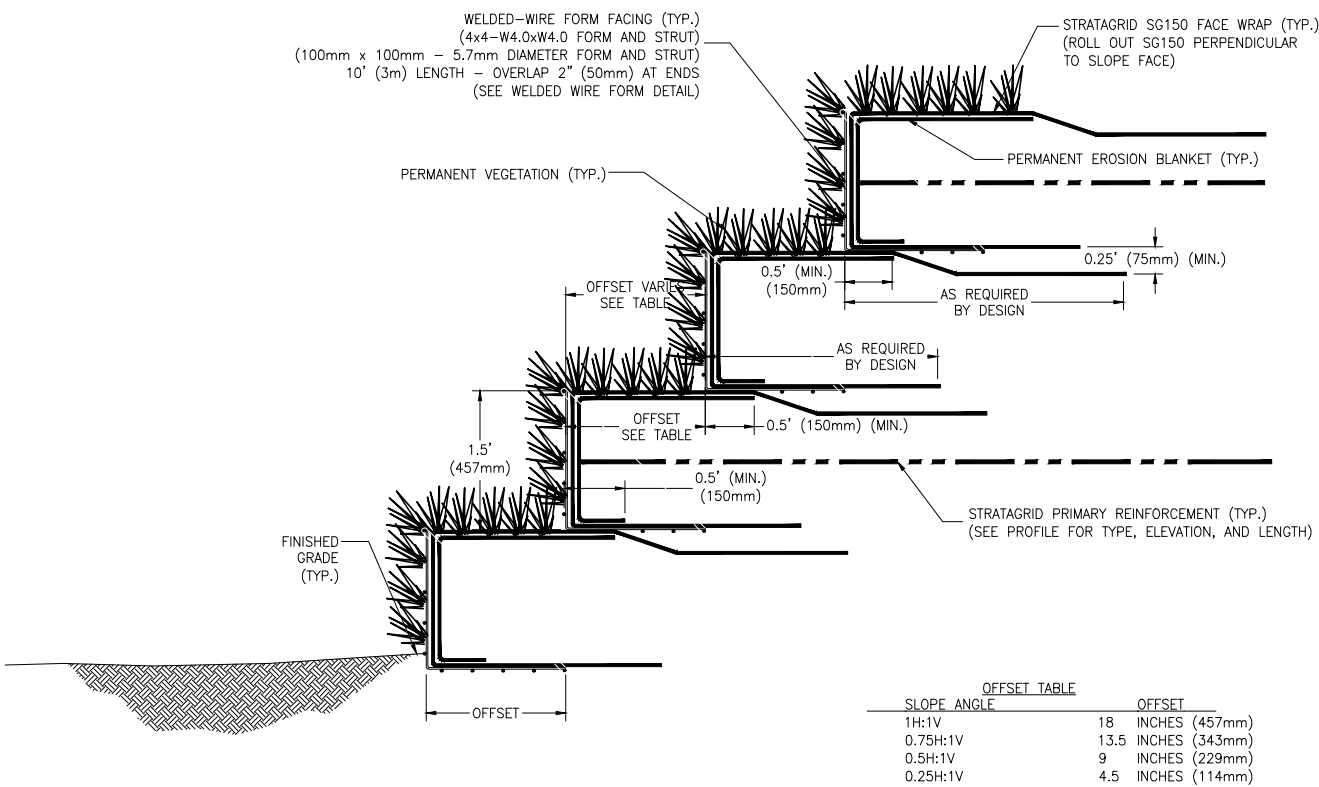
STRATAWEB SCC 40 DETAIL
N.T.S.

TYPICAL J-HOOK DETAIL
N.T.S.

PORTIONS OF DETAILS PROVIDED BY MANUFACTURER

Wire From Facing Detail with SG150 and Erosion Blanket Wrap

N.T.S.



PORTIONS OF DETAILS PROVIDED BY MANUFACTURER

+0.80 - USGS DATUM
(1929 NGVD)
0.80'
0' - PROJECT DATUM
(NAVD 1988)



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Town Brook Enhancement
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Drawing Title

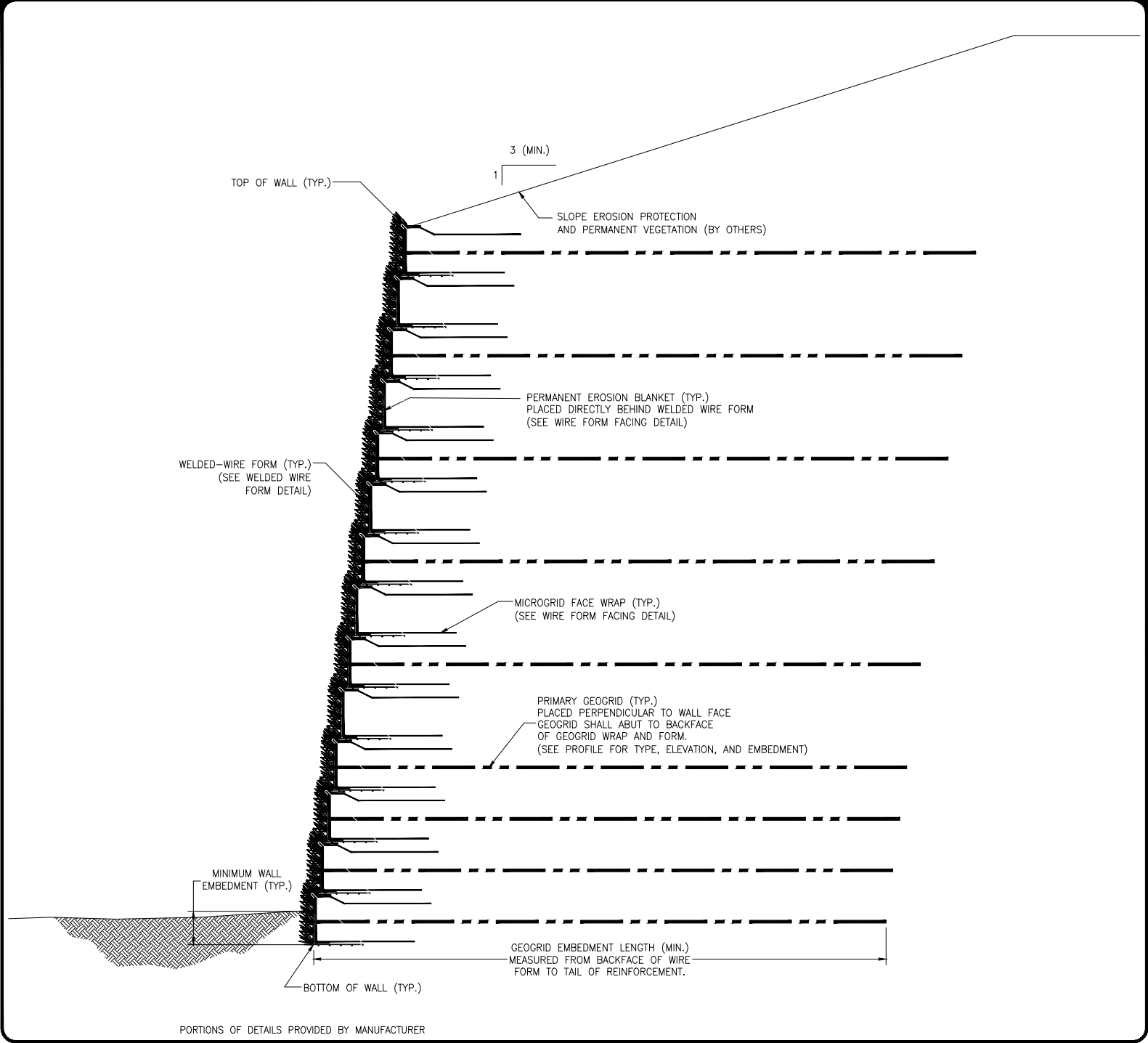
Construction Details

Drawing # C-6.5 Sheet 22 of 26

Project # 10-006 Date Sept. 23, 2011

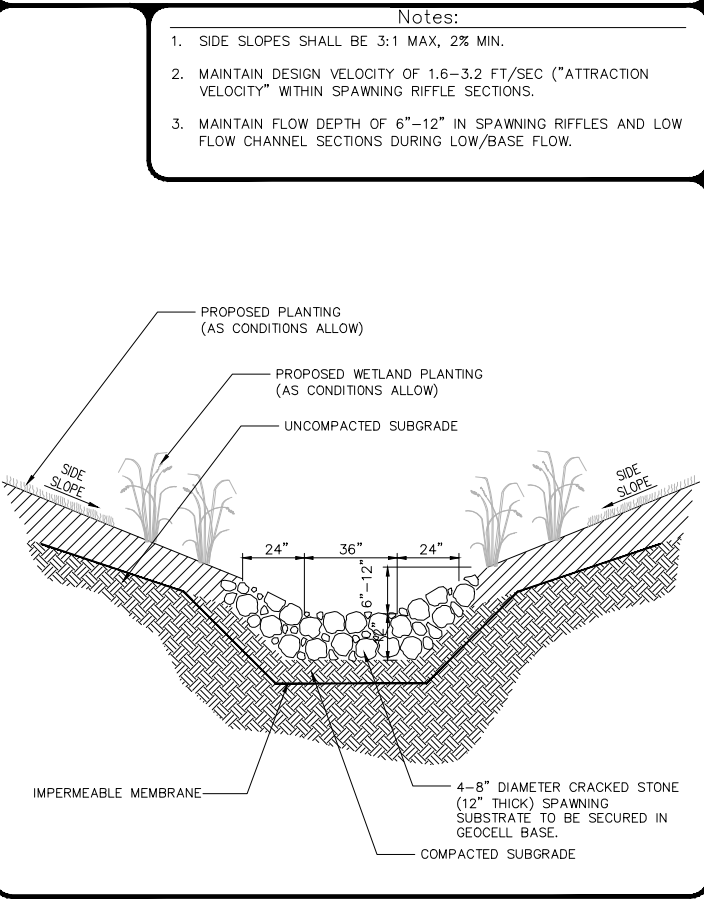
Wire From Facing Detail with Microgrid and Erosion Blanket Wrap

N.T.S.



Natural Bottom Low Flow Channel Detail

N.T.S.



+0.80 - USGS DATUM (1929 NGVD)
0.80'
0' - PROJECT DATUM (NAVD 1988)



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Quincy Center Redevelopment
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23 26

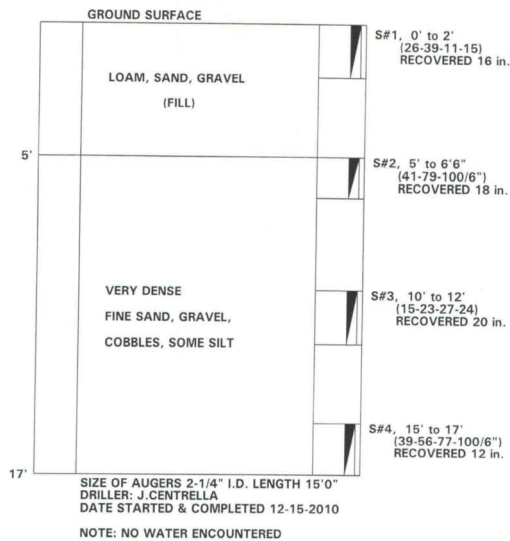
Project #
10-006

Date
Sept. 23, 2011

CARR-DEE CORP.

37 LINDEN STREET P.O. BOX 67 MEDFORD, MA 02155-0001 Telephone (781) 391-4500
To: J.DERENZO CO. 338 HOWARD STREET, BROCKTON, MA Date: 12-15-2010 Job No.: 2010-176
Location: REVERE ROAD, QUINCY, MA Scale: 1 in. = 4 ft.

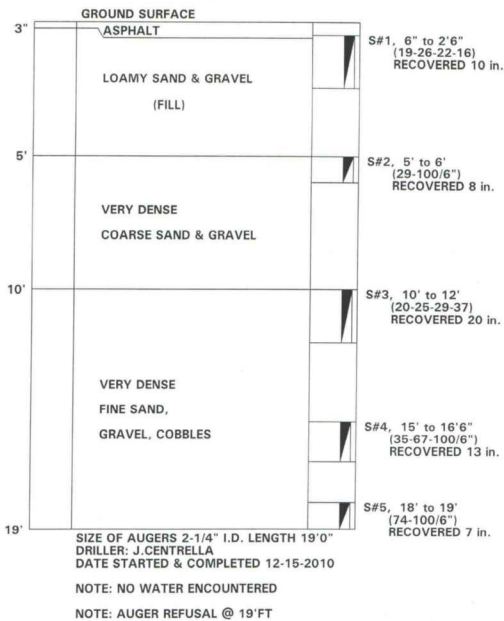
BORING 1



CARR-DEE CORP.

37 LINDEN STREET P.O. BOX 67 MEDFORD, MA 02155-0001 Telephone (781) 391-4500
To: J.DERENZO CO. 338 HOWARD STREET, BROCKTON, MA Date: 12-15-2010 Job No.: 2010-176
Location: REVERE ROAD, QUINCY, MA Scale: 1 in. = 4 ft.

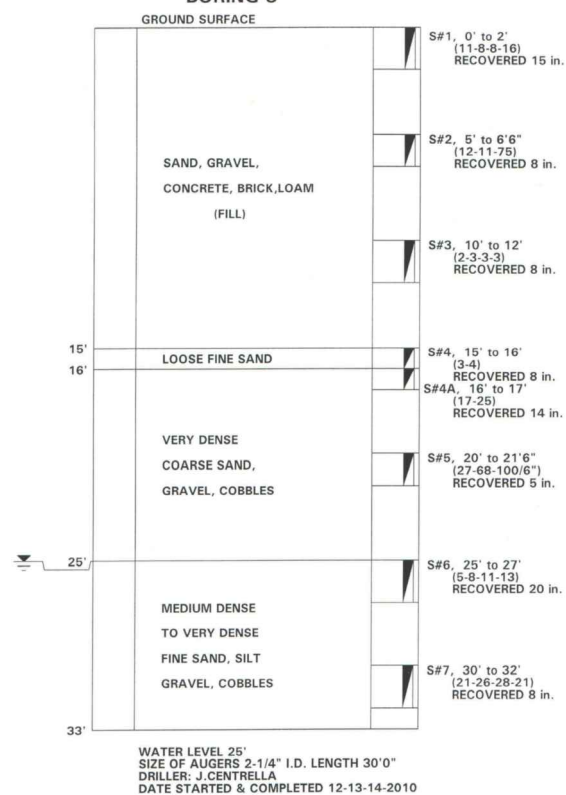
BORING 2



CARR-DEE CORP.

37 LINDEN STREET P.O. BOX 67 MEDFORD, MA 02155-0001 Telephone (781) 391-4500
To: J.DERENZO CO. 338 HOWARD STREET, BROCKTON, MA Date: 12-15-2010 Job No.: 2010-176
Location: REVERE ROAD, QUINCY, MA Scale: 1 in. = 5 ft.

BORING 3

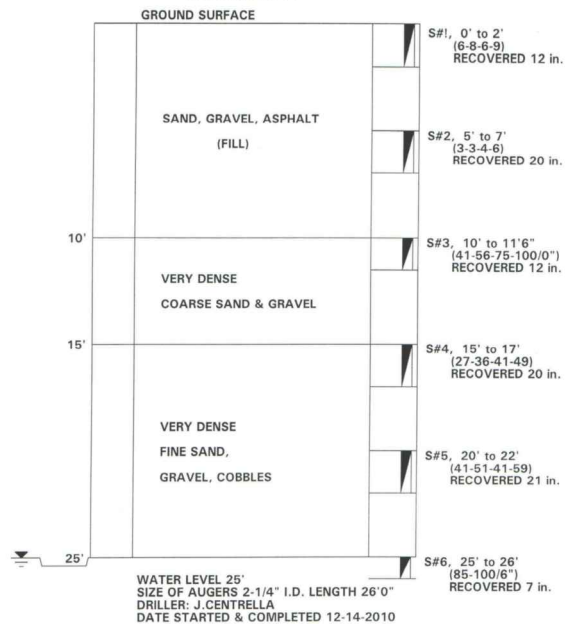


All samples have been visually classified by DRILLER. Unless otherwise specified, water levels noted were observed at completion of borings, and do not necessarily represent permanent ground water levels. Figures in parenthesis indicate the number of blows required to drive Two-inch Split Sampler 6 inches using 140 lb. weight falling 30 inches (\pm). Figures in column to left (if noted) indicate number of blows to drive casing one foot, using 300 lb. weight falling 24 inches (\pm).

CARR-DEE CORP.

37 LINDEN STREET P.O. BOX 67 MEDFORD, MA 02155-0001 Telephone (781) 391-4500
To: J.DERENZO CO. 338 HOWARD STREET, BROCKTON, MA Date: 12-15-2010 Job No.: 2010-176
Location: REVERE ROAD, QUINCY, MA Scale: 1 in. = 5 ft.

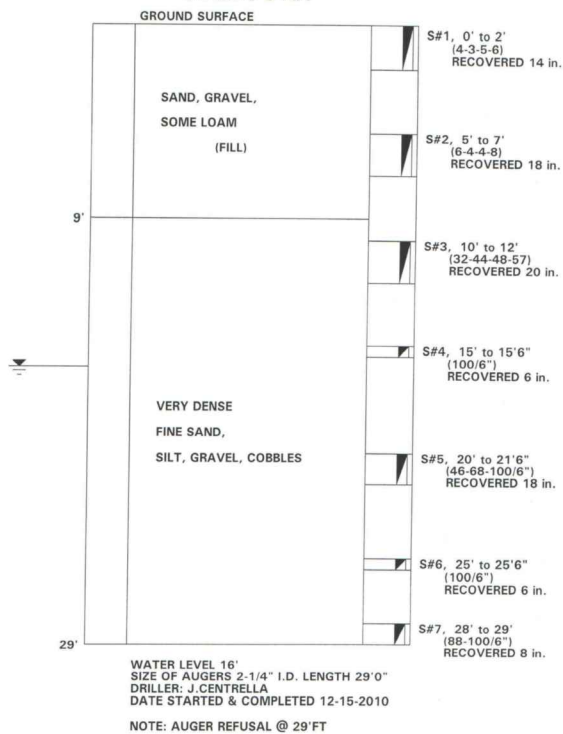
BORING 3-A



CARR-DEE CORP.

37 LINDEN STREET P.O. BOX 67 MEDFORD, MA 02155-0001 Telephone (781) 391-4500
To: J.DERENZO CO. 338 HOWARD STREET, BROCKTON, MA Date: 12-15-2010 Job No.: 2010-176
Location: REVERE ROAD, QUINCY, MA Scale: 1 in. = 5 ft.

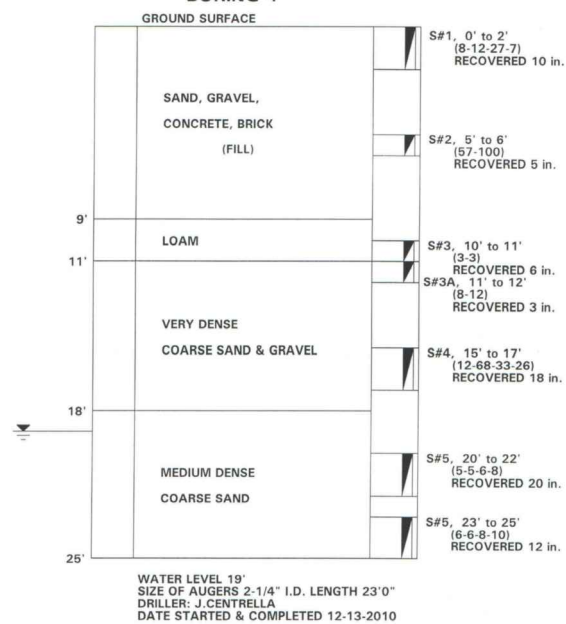
BORING 3-AA



CARR-DEE CORP.

37 LINDEN STREET P.O. BOX 67 MEDFORD, MA 02155-0001 Telephone (781) 391-4500
To: J.DERENZO CO. 338 HOWARD STREET, BROCKTON, MA Date: 12-15-2010 Job No.: 2010-176
Location: REVERE ROAD, QUINCY, MA Scale: 1 in. = 5 ft.

BORING 4



+0.80 - USGS DATUM
(1929 NGVD)

0' - PROJECT DATUM
(NAVD 1988)



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Project

QUINCY, MASSACHUSETTS

Drawing Title

Construction Details
Geotechnical Boring Logs

Drawing #

C-7.1

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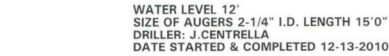
Project #

10-006

Date

Sept. 23, 2011

37 LINDEN STREET P.O. BOX 67 MEDFORD, MA 02155-0001 Telephone (781) 391-4500
To: J.DERENZO CO. 338 HOWARD STREET, BROCKTON, MA Date: 12-15-2010 Job No.: 2010-176
Location: REVERE ROAD, QUINCY, MA Scale: 1 in. = 5 ft.



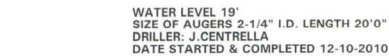
37 LINDEN STREET P.O. BOX 67 MEDFORD, MA 02155-0001 Telephone (781) 391-4500
To: J.DERENZO CO. 338 HOWARD STREET, BROCKTON, MA Date: 12-15-2010 Job No.: 2010-176
Location: REVERE ROAD, QUINCY, MA Scale: 1 in. = 5 ft.



37 LINDEN STREET P.O. BOX 67 MEDFORD, MA 02155-0001 Telephone (781) 391-4500
To: J.DERENZO CO. 338 HOWARD STREET, BROCKTON, MA Date: 12-15-2010 Job No.: 2010-176
Location: REVERE ROAD, QUINCY, MA Scale: 1 in. = 5 ft.



37 LINDEN STREET P.O. BOX 67 MEDFORD, MA 02155-0001 Telephone (781) 391-4500
To: J.DERENZO CO. 338 HOWARD STREET, BROCKTON, MA Date: 12-15-2010 Job No.: 2010-176
Location: REVERE ROAD, QUINCY, MA Scale: 1 in. = 5 ft.



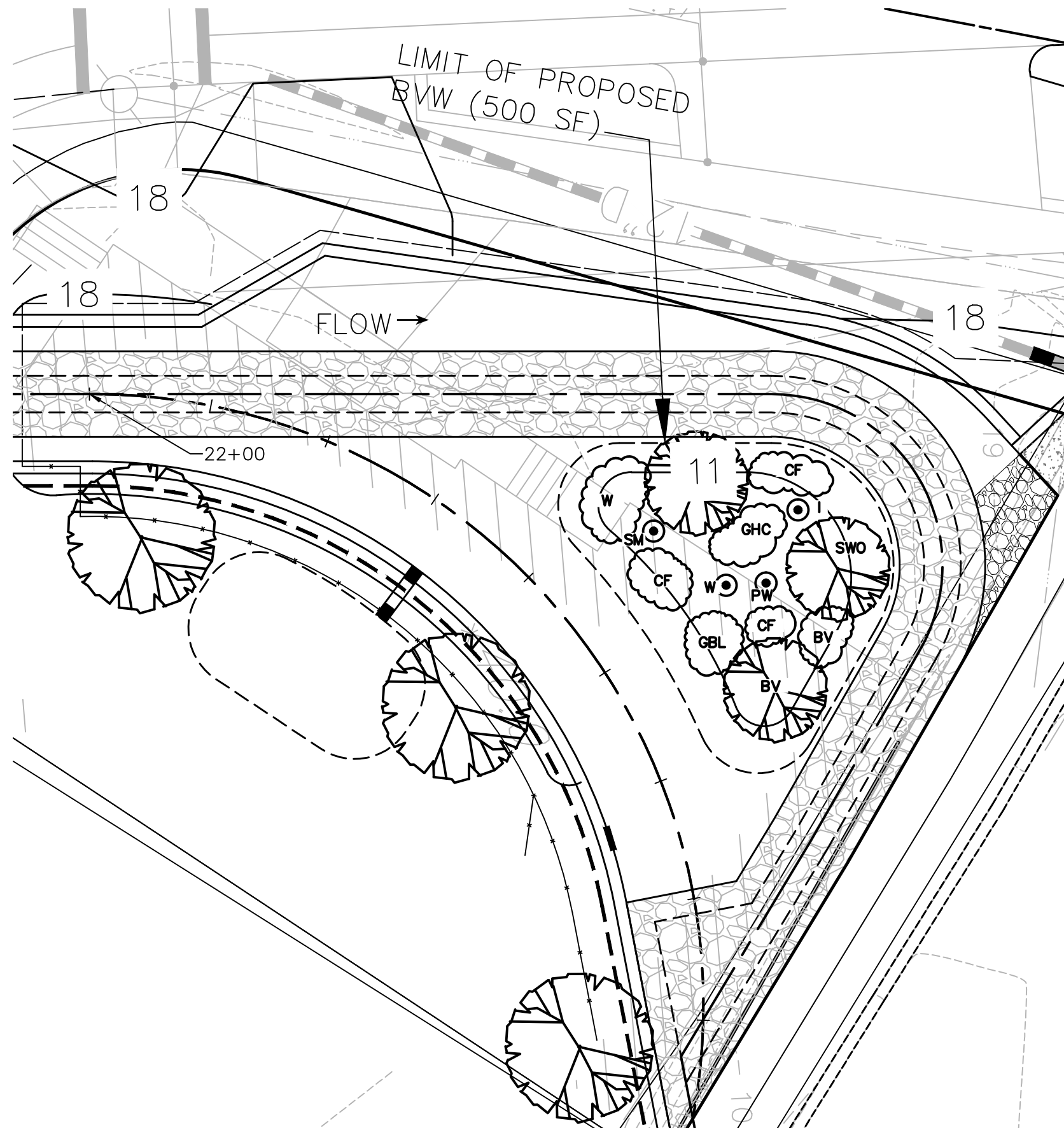
H&A-TEST BORING-07.1 REV	HA-LIB07.1-BOS.GLB	HA-TB+CORE+WELL-07.1.GDT	G:\3557\1\FIELD DATA\055\35571-500_TB.GPJ	6 May 11
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Project Title
Quincy Center Redevelopment
Town Brook Enhancement
Project

Drawing Title
Construction Details
Geotechnical Boring Logs

Project #	Date
10-006	Sept. 23, 2011



WETLAND PLANTING PLAN

$$\overline{1''=10'}$$
TABLE 1.1

PROPOSED VEGETATION TO BE PLANTED IN MITIGATION AREA

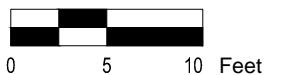
Common Name	Latin Name	Status	Size	Number of Plants
Trees				
Silver Maple	<i>Acer saccharinum</i>	FACW	2-3" caliper	1
Swamp White Oak	<i>Quercus bicolor</i>	FACW+	2-3" caliper	1
River Birch	<i>Betula nigra</i>	FACW	2-3" caliper	1
Shrubs				
Inkberry	<i>Ilex glabra</i>	FACW-	2-3' height	1
Winterberry	<i>Ilex verticillata</i>	FACW+	2-3' height	1
Swamp Azalea	<i>Rhododendron viscosum</i>	OBL	2-3' height	1
Pussy Willow	<i>Salix discolor</i>	FACW	2-3' height	1
Ground Cover				
Cardinal Flower	<i>Lobelia cardinalis</i>	FACW+	2" plugs	50
Great Blue Lobelia	<i>Lobelia siphilitica</i>	FACW+	2" plugs	50
Woolgrass	<i>Scirpus cyperinus</i>	OBL	2" plugs	50
Blue Vervain	<i>Verbena hastata</i>	FACW+	2" plugs	50
Green-headed Coneflower	<i>Rudbeckia laciniata</i>	FACW	2" plugs	50

Low Flow Channel Notes

1. GEOTECHNICAL INVESTIGATION TO BE PERFORMED IN LOCATION OF NATURAL BOTTOM OF LOW FLOW CHANNEL AND RESTING POOL TO DETERMINE NEED FOR IMPERMEABLE LINER, BASED ON EXISTING GROUNDWATER ELEVATION AND PERMEABILITY AS WELL AS ANY POTENTIAL OR KNOWN CONTAMINANTS
2. MAINTAIN DESIGN VELOCITY OF 1.6-3.2 FT/SEC ("ATTRACTION VELOCITY" WITHIN SPAWNING RIFFLE SECTIONS.
3. MAINTAIN FLOW DEPTH OF 6"-12" IN SPAWNING RIFFLES AND LOW FLOW CHANNEL SECTIONS DURING LOW/BASE FLOW.
4. LOW FLOW CHANNEL SECTIONS AND RESTING POOLS SHALL HAVE 4"-8" DIAMETER CRACKED STONE SUBSTRATE SECURED TO CULVERT BOTTOM. NATURAL BOTTOM CHANNEL SECTION SHALL HAVE 4"-8" DIAMETER CRACKED STONE EMBEDDED SUFFICIENTLY TO AVOID MIGRATION OF SUBSTRATE.
5. PROVIDE SHADE TREES ALONG OPEN CHANNEL SECTIONS TO PROVIDE SHADE.

Notes

1. ELEVATIONS REFERENCED IN THIS DRAWING REFLECT NAVD 1988 ELEVATIONS. ELEVATIONS REFERENCED FROM QUINCY CENTER CONCOURSE - SECTION 2 HAVE BEEN ADJUSTED FROM PREVIOUS DATUM (NGVD 1929) BY DATUM RELATIONSHIP ADJUSTMENTS SHOWN ON COVER PAGE.
2. CONTRACTOR TO PROVIDE SUPPORT FOR AND MAINTAIN EXISTING UTILITIES IN WORKING ORDER DURING CONSTRUCTION, UNLESS OTHERWISE NOTED. CONTRACTOR SHALL SUBMIT TO OWNER FOR REVIEW PRIOR TO PERFORMING WORK.



+0.80' - USGS DATUM
(1929 NGVD)

0' - PROJECT DATUM
(NAVD 1988)



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Town Brook Enhancement
Project

QUINCY, MASSACHUSETTS

Drawing Title
Wetland Planting Plan

Drawing # C-8

Project #

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Date
Sept. 23, 2011